

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 May 2001 (17.05.2001)

PCT

(10) International Publication Number
WO 01/34802 A2

(51) International Patent Classification⁷: C12N 15/12,
15/62, 15/11, 1/21, 5/10, C07K 14/47, 16/18, 19/00, A61K
38/17, 31/70, 39/395, 48/00, G01N 33/68, C12Q 1/68

(21) International Application Number: PCT/US00/30904

(22) International Filing Date:
9 November 2000 (09.11.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/439,313 12 November 1999 (12.11.1999) US
09/443,686 18 November 1999 (18.11.1999) US

(71) Applicant (for all designated States except US): CORIXA
CORPORATION [US/US]; Suite 200, 1124 Columbia
Street, Seattle, WA 98104 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): XU, Jiangchun
[US/US]; 15805 SE 43rd Place, Bellevue, WA 98006

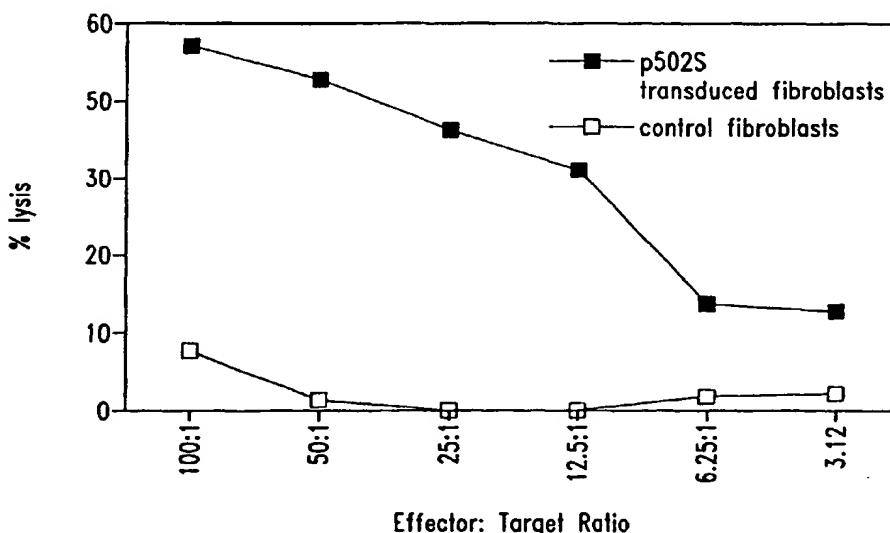
(US). DILLON, Davin, C. [US/US]; 18112 NW Mon-
treux Drive, Issaquah, WA 98027 (US). MITCHAM,
Jennifer, L. [US/US]; 16677 NE 88th Street, Redmond,
WA 98052 (US). HARLOCKER, Susan, L. [US/US];
7522 - 13th Avenue W., Seattle, WA 98117 (US). JIANG,
Yuqiu [CN/US]; 5001 South 232nd Street, Kent, WA
98032 (US). REED, Steven, G. [US/US]; 2843 - 122nd
Place NE, Bellevue, WA 98005 (US). KALOS, Michael,
D. [US/US]; 8116 Dayton Ave. N., Seattle, WA 98103
(US). RETTER, Marc, W. [US/US]; 33402 NE 43rd
Place, Carnation, WA 98014 (US). STOLK, John, A.
[US/US]; 7436 Northeast 144th Place, Bothell, WA 98011
(US). DAY, Craig, H. [US/US]; 11501 Stone Ave. N.,
C122, Seattle, WA 98133-8317 (US). SKEIKY, Yasir,
A.W. [CA/US]; 15106 SE 47th Place, Bellevue, WA 98006
(US). WANG, Aijun [CN/US]; 3106 213th Place SE,
Issaquah, WA 98029 (US).

(74) Agents: POTTER, Jane, E., R.; Seed Intellectual Prop-
erty Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seat-
tle, WA 98104-7092 et al. (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,

[Continued on next page]

(54) Title: COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF PROSTATE CANCER



(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate-specific proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate-specific protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate-specific protein, or mRNA encoding such a protein, in a sample are also provided.

WO 01/34802 A2



DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— *Without international search report and to be republished upon receipt of that report.*

(84) **Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

COMPOSITIONS AND METHODS FOR THE THERAPY AND DIAGNOSIS OF PROSTATE CANCER

5 TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate-specific protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for
10 prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress
15 inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but
20 these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate
25 with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

30 SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the

diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a prostate-specific protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate-specific protein, or a variant thereof, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382,384-476, 524, 526, 530, 531, 533, 535 and 536; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380, 383, 477-483, 496, 504, 505, 519, 520, 522, 525, 527, 532, 534, 537-550.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate-specific protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines for prophylactic or therapeutic use are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and an immunostimulant.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate-specific protein; and (b) a physiologically acceptable carrier. In certain embodiments, the present invention provides monoclonal antibodies that specifically bind to an amino acid sequence selected from the group consisting of SEQ ID NO: 496, 504, 505, 509-517, 522 and 541-550, together with monoclonal antibodies comprising a complementarity determining region selected from the group consisting of SEQ ID NO: 502, 503 and 506-508.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

5 Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) an immunostimulant.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

10 Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with an immunostimulant.

15 Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate-specific protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

20 Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

25 Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate-specific protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate-specific protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate-specific protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain

embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that
5 hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate-specific protein; (b)
10 detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as
15 monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed
20 herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate-specific polypeptide P502S, as compared to control fibroblasts. The
25 percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate-specific polypeptide P502S. In each case, the number of γ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure
30 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/neu.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

5 Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

10 Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate-specific polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

15 Figures 6A and 6B are graphs illustrating the specificity of a CD8⁺ cell line (3A-1) for a representative prostate-specific antigen (P501S). Figure 6A shows the results of a ⁵¹Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

Figure 7 is a Western blot showing the expression of P501S in baculovirus.

Figure 8 illustrates the results of epitope mapping studies on P501S.

20 Figure 9 is a schematic representation of the P501S protein showing the location of transmembrane domains and predicted intracellular and extracellular domains.

Figure 10 is a genomic map showing the location of the prostate genes P775P, P704P, B305D, P712P and P774P within the Cat Eye Syndrome region of chromosome 22q11.2

25 Figure 11 shows the results of an ELISA assay of antibody specificity to P501S peptides.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12

SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16

30 SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1

SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9

SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4

- SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17
SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17
SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12
SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12
5 SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862
SEQ ID NO: 13 is the determined 5' cDNA sequence for N1-1862
SEQ ID NO: 14 is the determined 3' cDNA sequence for J1-13
SEQ ID NO: 15 is the determined 5' cDNA sequence for J1-13
SEQ ID NO: 16 is the determined 3' cDNA sequence for J1-19
10 SEQ ID NO: 17 is the determined 5' cDNA sequence for J1-19
SEQ ID NO: 18 is the determined 3' cDNA sequence for J1-25
SEQ ID NO: 19 is the determined 5' cDNA sequence for J1-25
SEQ ID NO: 20 is the determined 5' cDNA sequence for J1-24
SEQ ID NO: 21 is the determined 3' cDNA sequence for J1-24
15 SEQ ID NO: 22 is the determined 5' cDNA sequence for K1-58
SEQ ID NO: 23 is the determined 3' cDNA sequence for K1-58
SEQ ID NO: 24 is the determined 5' cDNA sequence for K1-63
SEQ ID NO: 25 is the determined 3' cDNA sequence for K1-63
SEQ ID NO: 26 is the determined 5' cDNA sequence for L1-4
20 SEQ ID NO: 27 is the determined 3' cDNA sequence for L1-4
SEQ ID NO: 28 is the determined 5' cDNA sequence for L1-14
SEQ ID NO: 29 is the determined 3' cDNA sequence for L1-14
SEQ ID NO: 30 is the determined 3' cDNA sequence for J1-12
SEQ ID NO: 31 is the determined 3' cDNA sequence for J1-16
25 SEQ ID NO: 32 is the determined 3' cDNA sequence for J1-21
SEQ ID NO: 33 is the determined 3' cDNA sequence for K1-48
SEQ ID NO: 34 is the determined 3' cDNA sequence for K1-55
SEQ ID NO: 35 is the determined 3' cDNA sequence for L1-2
SEQ ID NO: 36 is the determined 3' cDNA sequence for L1-6
30 SEQ ID NO: 37 is the determined 3' cDNA sequence for N1-1858
SEQ ID NO: 38 is the determined 3' cDNA sequence for N1-1860
SEQ ID NO: 39 is the determined 3' cDNA sequence for N1-1861

- SEQ ID NO: 40 is the determined 3' cDNA sequence for N1-1864
- SEQ ID NO: 41 is the determined cDNA sequence for P5
- SEQ ID NO: 42 is the determined cDNA sequence for P8
- SEQ ID NO: 43 is the determined cDNA sequence for P9
- 5 SEQ ID NO: 44 is the determined cDNA sequence for P18
- SEQ ID NO: 45 is the determined cDNA sequence for P20
- SEQ ID NO: 46 is the determined cDNA sequence for P29
- SEQ ID NO: 47 is the determined cDNA sequence for P30
- SEQ ID NO: 48 is the determined cDNA sequence for P34
- 10 SEQ ID NO: 49 is the determined cDNA sequence for P36
- SEQ ID NO: 50 is the determined cDNA sequence for P38
- SEQ ID NO: 51 is the determined cDNA sequence for P39
- SEQ ID NO: 52 is the determined cDNA sequence for P42
- SEQ ID NO: 53 is the determined cDNA sequence for P47
- 15 SEQ ID NO: 54 is the determined cDNA sequence for P49
- SEQ ID NO: 55 is the determined cDNA sequence for P50
- SEQ ID NO: 56 is the determined cDNA sequence for P53
- SEQ ID NO: 57 is the determined cDNA sequence for P55
- SEQ ID NO: 58 is the determined cDNA sequence for P60
- 20 SEQ ID NO: 59 is the determined cDNA sequence for P64
- SEQ ID NO: 60 is the determined cDNA sequence for P65
- SEQ ID NO: 61 is the determined cDNA sequence for P73
- SEQ ID NO: 62 is the determined cDNA sequence for P75
- SEQ ID NO: 63 is the determined cDNA sequence for P76
- 25 SEQ ID NO: 64 is the determined cDNA sequence for P79
- SEQ ID NO: 65 is the determined cDNA sequence for P84
- SEQ ID NO: 66 is the determined cDNA sequence for P68
- SEQ ID NO: 67 is the determined cDNA sequence for P80
- SEQ ID NO: 68 is the determined cDNA sequence for P82
- 30 SEQ ID NO: 69 is the determined cDNA sequence for U1-3064
- SEQ ID NO: 70 is the determined cDNA sequence for U1-3065
- SEQ ID NO: 71 is the determined cDNA sequence for V1-3692

- SEQ ID NO: 72 is the determined cDNA sequence for 1A-3905
SEQ ID NO: 73 is the determined cDNA sequence for V1-3686
SEQ ID NO: 74 is the determined cDNA sequence for R1-2330
SEQ ID NO: 75 is the determined cDNA sequence for 1B-3976
5 SEQ ID NO: 76 is the determined cDNA sequence for V1-3679
SEQ ID NO: 77 is the determined cDNA sequence for 1G-4736
SEQ ID NO: 78 is the determined cDNA sequence for 1G-4738
SEQ ID NO: 79 is the determined cDNA sequence for 1G-4741
SEQ ID NO: 80 is the determined cDNA sequence for 1G-4744
10 SEQ ID NO: 81 is the determined cDNA sequence for 1G-4734
SEQ ID NO: 82 is the determined cDNA sequence for 1H-4774
SEQ ID NO: 83 is the determined cDNA sequence for 1H-4781
SEQ ID NO: 84 is the determined cDNA sequence for 1H-4785
SEQ ID NO: 85 is the determined cDNA sequence for 1H-4787
15 SEQ ID NO: 86 is the determined cDNA sequence for 1H-4796
SEQ ID NO: 87 is the determined cDNA sequence for 1I-4807
SEQ ID NO: 88 is the determined cDNA sequence for 1I-4810
SEQ ID NO: 89 is the determined cDNA sequence for 1I-4811
SEQ ID NO: 90 is the determined cDNA sequence for 1J-4876
20 SEQ ID NO: 91 is the determined cDNA sequence for 1K-4884
SEQ ID NO: 92 is the determined cDNA sequence for 1K-4896
SEQ ID NO: 93 is the determined cDNA sequence for 1G-4761
SEQ ID NO: 94 is the determined cDNA sequence for 1G-4762
SEQ ID NO: 95 is the determined cDNA sequence for 1H-4766
25 SEQ ID NO: 96 is the determined cDNA sequence for 1H-4770
SEQ ID NO: 97 is the determined cDNA sequence for 1H-4771
SEQ ID NO: 98 is the determined cDNA sequence for 1H-4772
SEQ ID NO: 99 is the determined cDNA sequence for 1D-4297
SEQ ID NO: 100 is the determined cDNA sequence for 1D-4309
30 SEQ ID NO: 101 is the determined cDNA sequence for 1D-4278
SEQ ID NO: 102 is the determined cDNA sequence for 1D-4288
SEQ ID NO: 103 is the determined cDNA sequence for 1D-4283

SEQ ID NO: 104 is the determined cDNA sequence for 1D-4304

SEQ ID NO: 105 is the determined cDNA sequence for 1D-4296

SEQ ID NO: 106 is the determined cDNA sequence for 1D-4280

SEQ ID NO: 107 is the determined full length cDNA sequence for F1-12 (also referred to as P504S)

5

SEQ ID NO: 108 is the predicted amino acid sequence for F1-12

SEQ ID NO: 109 is the determined full length cDNA sequence for J1-17

SEQ ID NO: 110 is the determined full length cDNA sequence for L1-12 (also referred to as P501S)

SEQ ID NO: 111 is the determined full length cDNA sequence for N1-1862 (also referred to as

10 P503S)

SEQ ID NO: 112 is the predicted amino acid sequence for J1-17

SEQ ID NO: 113 is the predicted amino acid sequence for L1-12 (also referred to as P501S)

SEQ ID NO: 114 is the predicted amino acid sequence for N1-1862 (also referred to as P503S)

SEQ ID NO: 115 is the determined cDNA sequence for P89

15 SEQ ID NO: 116 is the determined cDNA sequence for P90

SEQ ID NO: 117 is the determined cDNA sequence for P92

SEQ ID NO: 118 is the determined cDNA sequence for P95

SEQ ID NO: 119 is the determined cDNA sequence for P98

SEQ ID NO: 120 is the determined cDNA sequence for P102

20 SEQ ID NO: 121 is the determined cDNA sequence for P110

SEQ ID NO: 122 is the determined cDNA sequence for P111

SEQ ID NO: 123 is the determined cDNA sequence for P114

SEQ ID NO: 124 is the determined cDNA sequence for P115

SEQ ID NO: 125 is the determined cDNA sequence for P116

25 SEQ ID NO: 126 is the determined cDNA sequence for P124

SEQ ID NO: 127 is the determined cDNA sequence for P126

SEQ ID NO: 128 is the determined cDNA sequence for P130

SEQ ID NO: 129 is the determined cDNA sequence for P133

SEQ ID NO: 130 is the determined cDNA sequence for P138

30 SEQ ID NO: 131 is the determined cDNA sequence for P143

SEQ ID NO: 132 is the determined cDNA sequence for P151

SEQ ID NO: 133 is the determined cDNA sequence for P156

- SEQ ID NO: 134 is the determined cDNA sequence for P157
SEQ ID NO: 135 is the determined cDNA sequence for P166
SEQ ID NO: 136 is the determined cDNA sequence for P176
SEQ ID NO: 137 is the determined cDNA sequence for P178
5 SEQ ID NO: 138 is the determined cDNA sequence for P179
SEQ ID NO: 139 is the determined cDNA sequence for P185
SEQ ID NO: 140 is the determined cDNA sequence for P192
SEQ ID NO: 141 is the determined cDNA sequence for P201
SEQ ID NO: 142 is the determined cDNA sequence for P204
10 SEQ ID NO: 143 is the determined cDNA sequence for P208
SEQ ID NO: 144 is the determined cDNA sequence for P211
SEQ ID NO: 145 is the determined cDNA sequence for P213
SEQ ID NO: 146 is the determined cDNA sequence for P219
SEQ ID NO: 147 is the determined cDNA sequence for P237
15 SEQ ID NO: 148 is the determined cDNA sequence for P239
SEQ ID NO: 149 is the determined cDNA sequence for P248
SEQ ID NO: 150 is the determined cDNA sequence for P251
SEQ ID NO: 151 is the determined cDNA sequence for P255
SEQ ID NO: 152 is the determined cDNA sequence for P256
20 SEQ ID NO: 153 is the determined cDNA sequence for P259
SEQ ID NO: 154 is the determined cDNA sequence for P260
SEQ ID NO: 155 is the determined cDNA sequence for P263
SEQ ID NO: 156 is the determined cDNA sequence for P264
SEQ ID NO: 157 is the determined cDNA sequence for P266
25 SEQ ID NO: 158 is the determined cDNA sequence for P270
SEQ ID NO: 159 is the determined cDNA sequence for P272
SEQ ID NO: 160 is the determined cDNA sequence for P278
SEQ ID NO: 161 is the determined cDNA sequence for P105
SEQ ID NO: 162 is the determined cDNA sequence for P107
30 SEQ ID NO: 163 is the determined cDNA sequence for P137
SEQ ID NO: 164 is the determined cDNA sequence for P194
SEQ ID NO: 165 is the determined cDNA sequence for P195

- SEQ ID NO: 166 is the determined cDNA sequence for P196
SEQ ID NO: 167 is the determined cDNA sequence for P220
SEQ ID NO: 168 is the determined cDNA sequence for P234
SEQ ID NO: 169 is the determined cDNA sequence for P235
5 SEQ ID NO: 170 is the determined cDNA sequence for P243
SEQ ID NO: 171 is the determined cDNA sequence for P703P-DE1
SEQ ID NO: 172 is the predicted amino acid sequence for P703P-DE1
SEQ ID NO: 173 is the determined cDNA sequence for P703P-DE2
SEQ ID NO: 174 is the determined cDNA sequence for P703P-DE6
10 SEQ ID NO: 175 is the determined cDNA sequence for P703P-DE13
SEQ ID NO: 176 is the predicted amino acid sequence for P703P-DE13
SEQ ID NO: 177 is the determined cDNA sequence for P703P-DE14
SEQ ID NO: 178 is the predicted amino acid sequence for P703P-DE14
SEQ ID NO: 179 is the determined extended cDNA sequence for 1G-4736
15 SEQ ID NO: 180 is the determined extended cDNA sequence for 1G-4738
SEQ ID NO: 181 is the determined extended cDNA sequence for 1G-4741
SEQ ID NO: 182 is the determined extended cDNA sequence for 1G-4744
SEQ ID NO: 183 is the determined extended cDNA sequence for 1H-4774
SEQ ID NO: 184 is the determined extended cDNA sequence for 1H-4781
20 SEQ ID NO: 185 is the determined extended cDNA sequence for 1H-4785
SEQ ID NO: 186 is the determined extended cDNA sequence for 1H-4787
SEQ ID NO: 187 is the determined extended cDNA sequence for 1H-4796
SEQ ID NO: 188 is the determined extended cDNA sequence for 1I-4807
SEQ ID NO: 189 is the determined 3' cDNA sequence for 1I-4810
25 SEQ ID NO: 190 is the determined 3' cDNA sequence for 1I-4811
SEQ ID NO: 191 is the determined extended cDNA sequence for 1J-4876
SEQ ID NO: 192 is the determined extended cDNA sequence for 1K-4884
SEQ ID NO: 193 is the determined extended cDNA sequence for 1K-4896
SEQ ID NO: 194 is the determined extended cDNA sequence for 1G-4761
30 SEQ ID NO: 195 is the determined extended cDNA sequence for 1G-4762
SEQ ID NO: 196 is the determined extended cDNA sequence for 1H-4766
SEQ ID NO: 197 is the determined 3' cDNA sequence for 1H-4770

SEQ ID NO: 198 is the determined 3' cDNA sequence for 1H-4771

SEQ ID NO: 199 is the determined extended cDNA sequence for 1H-4772

SEQ ID NO: 200 is the determined extended cDNA sequence for 1D-4309

SEQ ID NO: 201 is the determined extended cDNA sequence for 1D.1-4278

5 SEQ ID NO: 202 is the determined extended cDNA sequence for 1D-4288

SEQ ID NO: 203 is the determined extended cDNA sequence for 1D-4283

SEQ ID NO: 204 is the determined extended cDNA sequence for 1D-4304

SEQ ID NO: 205 is the determined extended cDNA sequence for 1D-4296

SEQ ID NO: 206 is the determined extended cDNA sequence for 1D-4280

10 SEQ ID NO: 207 is the determined cDNA sequence for 10-d8fwd

SEQ ID NO: 208 is the determined cDNA sequence for 10-H10con

SEQ ID NO: 209 is the determined cDNA sequence for 11-C8rev

SEQ ID NO: 210 is the determined cDNA sequence for 7.g6fwd

SEQ ID NO: 211 is the determined cDNA sequence for 7.g6rev

15 SEQ ID NO: 212 is the determined cDNA sequence for 8-b5fwd

SEQ ID NO: 213 is the determined cDNA sequence for 8-b5rev

SEQ ID NO: 214 is the determined cDNA sequence for 8-b6fwd

SEQ ID NO: 215 is the determined cDNA sequence for 8-b6 rev

SEQ ID NO: 216 is the determined cDNA sequence for 8-d4fwd

20 SEQ ID NO: 217 is the determined cDNA sequence for 8-d9rev

SEQ ID NO: 218 is the determined cDNA sequence for 8-g3fwd

SEQ ID NO: 219 is the determined cDNA sequence for 8-g3rev

SEQ ID NO: 220 is the determined cDNA sequence for 8-h11rev

SEQ ID NO: 221 is the determined cDNA sequence for g-f12fwd

25 SEQ ID NO: 222 is the determined cDNA sequence for g-f3rev

SEQ ID NO: 223 is the determined cDNA sequence for P509S

SEQ ID NO: 224 is the determined cDNA sequence for P510S

SEQ ID NO: 225 is the determined cDNA sequence for P703DE5

SEQ ID NO: 226 is the determined cDNA sequence for 9-A11

30 SEQ ID NO: 227 is the determined cDNA sequence for 8-C6

SEQ ID NO: 228 is the determined cDNA sequence for 8-H7

SEQ ID NO: 229 is the determined cDNA sequence for JPTPN13

- SEQ ID NO: 230 is the determined cDNA sequence for JPTPN14
SEQ ID NO: 231 is the determined cDNA sequence for JPTPN23
SEQ ID NO: 232 is the determined cDNA sequence for JPTPN24
SEQ ID NO: 233 is the determined cDNA sequence for JPTPN25
5 SEQ ID NO: 234 is the determined cDNA sequence for JPTPN30
SEQ ID NO: 235 is the determined cDNA sequence for JPTPN34
SEQ ID NO: 236 is the determined cDNA sequence for PTPN35
SEQ ID NO: 237 is the determined cDNA sequence for JPTPN36
SEQ ID NO: 238 is the determined cDNA sequence for JPTPN38
10 SEQ ID NO: 239 is the determined cDNA sequence for JPTPN39
SEQ ID NO: 240 is the determined cDNA sequence for JPTPN40
SEQ ID NO: 241 is the determined cDNA sequence for JPTPN41
SEQ ID NO: 242 is the determined cDNA sequence for JPTPN42
SEQ ID NO: 243 is the determined cDNA sequence for JPTPN45
15 SEQ ID NO: 244 is the determined cDNA sequence for JPTPN46
SEQ ID NO: 245 is the determined cDNA sequence for JPTPN51
SEQ ID NO: 246 is the determined cDNA sequence for JPTPN56
SEQ ID NO: 247 is the determined cDNA sequence for PTPN64
SEQ ID NO: 248 is the determined cDNA sequence for JPTPN65
20 SEQ ID NO: 249 is the determined cDNA sequence for JPTPN67
SEQ ID NO: 250 is the determined cDNA sequence for JPTPN76
SEQ ID NO: 251 is the determined cDNA sequence for JPTPN84
SEQ ID NO: 252 is the determined cDNA sequence for JPTPN85
SEQ ID NO: 253 is the determined cDNA sequence for JPTPN86
25 SEQ ID NO: 254 is the determined cDNA sequence for JPTPN87
SEQ ID NO: 255 is the determined cDNA sequence for JPTPN88
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2
30 SEQ ID NO: 259 is the determined cDNA sequence for JP1B1
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2
SEQ ID NO: 261 is the determined cDNA sequence for JP1D3

- SEQ ID NO: 262 is the determined cDNA sequence for JP1A4
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6
5 SEQ ID NO: 266 is the determined cDNA sequence for JP1B5
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9
10 SEQ ID NO: 271 is the determined cDNA sequence for JP1C10
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11
15 SEQ ID NO: 276 is the determined cDNA sequence for JP1C11
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2
20 SEQ ID NO: 281 is the determined cDNA sequence for JP8H1
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3
25 SEQ ID NO: 286 is the determined cDNA sequence for JP8G4
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6
SEQ ID NO: 289 is the determined cDNA sequence for JP8F5
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8
30 SEQ ID NO: 291 is the determined cDNA sequence for JP8C7
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7
SEQ ID NO: 293 is the determined cDNA sequence for P8D8

- SEQ ID NO: 294 is the determined cDNA sequence for JP8E7
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10
5 SEQ ID NO: 298 is the determined cDNA sequence for JP8C10
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9
10 SEQ ID NO: 303 is the determined cDNA sequence for JP8C12
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12
SEQ ID NO: 307 is the determined cDNA sequence for P711P
15 SEQ ID NO: 308 is the determined cDNA sequence for P712P
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23
SEQ ID NO: 310 is the determined cDNA sequence for P774P
SEQ ID NO: 311 is the determined cDNA sequence for P775P
SEQ ID NO: 312 is the determined cDNA sequence for P715P
20 SEQ ID NO: 313 is the determined cDNA sequence for P710P
SEQ ID NO: 314 is the determined cDNA sequence for P767P
SEQ ID NO: 315 is the determined cDNA sequence for P768P
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5
25 SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5
SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26
SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26
SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23
SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23
30 SEQ ID NO: 332 is the determined full length cDNA sequence for P509S
SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)
SEQ ID NO: 334 is the determined cDNA sequence for P714P

- SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)
- SEQ ID NO: 336 is the predicted amino acid sequence for P705P
- SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10
- SEQ ID NO: 338 is the amino acid sequence of the peptide p5
- 5 SEQ ID NO: 339 is the predicted amino acid sequence of P509S
- SEQ ID NO: 340 is the determined cDNA sequence for P778P
- SEQ ID NO: 341 is the determined cDNA sequence for P786P
- SEQ ID NO: 342 is the determined cDNA sequence for P789P
- SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo
- 10 sapiens MM46 mRNA
- SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA
- SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin
- 15 SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)
- SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)
- SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo
- 20 sapiens phosphoglucomutase-related protein (PGMRP)
- SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteasome subunit p40
- SEQ ID NO: 350 is the determined cDNA sequence for P777P
- SEQ ID NO: 351 is the determined cDNA sequence for P779P
- 25 SEQ ID NO: 352 is the determined cDNA sequence for P790P
- SEQ ID NO: 353 is the determined cDNA sequence for P784P
- SEQ ID NO: 354 is the determined cDNA sequence for P776P
- SEQ ID NO: 355 is the determined cDNA sequence for P780P
- SEQ ID NO: 356 is the determined cDNA sequence for P544S
- 30 SEQ ID NO: 357 is the determined cDNA sequence for P745S
- SEQ ID NO: 358 is the determined cDNA sequence for P782P
- SEQ ID NO: 359 is the determined cDNA sequence for P783P

- SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984
- SEQ ID NO: 361 is the determined cDNA sequence for P787P
- SEQ ID NO: 362 is the determined cDNA sequence for P788P
- SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994
- 5 SEQ ID NO: 364 is the determined cDNA sequence for P781P
- SEQ ID NO: 365 is the determined cDNA sequence for P785P
- SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.
- SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.
- 10 SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.
- SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.
- SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.
- 15 SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.
- SEQ ID NO: 381 is the determined cDNA sequence for B716P.
- SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.
- 20 SEQ ID NO: 383 is the predicted amino acid sequence for P711P.
- SEQ ID NO: 384 is the cDNA sequence for P1000C.
- SEQ ID NO: 385 is the cDNA sequence for CGI-82.
- SEQ ID NO: 386 is the cDNA sequence for 23320.
- SEQ ID NO: 387 is the cDNA sequence for CGI-69.
- 25 SEQ ID NO: 388 is the cDNA sequence for L-iditol-2-dehydrogenase.
- SEQ ID NO: 389 is the cDNA sequence for 23379.
- SEQ ID NO: 390 is the cDNA sequence for 23381.
- SEQ ID NO: 391 is the cDNA sequence for KIAA0122.
- SEQ ID NO: 392 is the cDNA sequence for 23399.
- 30 SEQ ID NO: 393 is the cDNA sequence for a previously identified gene.
- SEQ ID NO: 394 is the cDNA sequence for HCLBP.
- SEQ ID NO: 395 is the cDNA sequence for transglutaminase.

SEQ ID NO:396 is the cDNA sequence for a previously identified gene.

SEQ ID NO:397 is the cDNA sequence for PAP.

SEQ ID NO:398 is the cDNA sequence for Ets transcription factor PDEF.

SEQ ID NO:399 is the cDNA sequence for hTGR.

5 SEQ ID NO:400 is the cDNA sequence for KIAA0295.

SEQ ID NO:401 is the cDNA sequence for 22545.

SEQ ID NO:402 is the cDNA sequence for 22547.

SEQ ID NO:403 is the cDNA sequence for 22548.

SEQ ID NO:404 is the cDNA sequence for 22550.

10 SEQ ID NO:405 is the cDNA sequence for 22551.

SEQ ID NO:406 is the cDNA sequence for 22552.

SEQ ID NO:407 is the cDNA sequence for 22553.

SEQ ID NO:408 is the cDNA sequence for 22558.

SEQ ID NO:409 is the cDNA sequence for 22562.

15 SEQ ID NO:410 is the cDNA sequence for 22565.

SEQ ID NO:411 is the cDNA sequence for 22567.

SEQ ID NO:412 is the cDNA sequence for 22568.

SEQ ID NO:413 is the cDNA sequence for 22570.

SEQ ID NO:414 is the cDNA sequence for 22571.

20 SEQ ID NO:415 is the cDNA sequence for 22572.

SEQ ID NO:416 is the cDNA sequence for 22573.

SEQ ID NO:417 is the cDNA sequence for 22573.

SEQ ID NO:418 is the cDNA sequence for 22575.

SEQ ID NO:419 is the cDNA sequence for 22580.

25 SEQ ID NO:420 is the cDNA sequence for 22581.

SEQ ID NO:421 is the cDNA sequence for 22582.

SEQ ID NO:422 is the cDNA sequence for 22583.

SEQ ID NO:423 is the cDNA sequence for 22584.

SEQ ID NO:424 is the cDNA sequence for 22585.

30 SEQ ID NO:425 is the cDNA sequence for 22586.

SEQ ID NO:426 is the cDNA sequence for 22587.

SEQ ID NO:427 is the cDNA sequence for 22588.

- SEQ ID NO:428 is the cDNA sequence for 22589.
SEQ ID NO:429 is the cDNA sequence for 22590.
SEQ ID NO:430 is the cDNA sequence for 22591.
SEQ ID NO:431 is the cDNA sequence for 22592.
5 SEQ ID NO:432 is the cDNA sequence for 22593.
SEQ ID NO:433 is the cDNA sequence for 22594.
SEQ ID NO:434 is the cDNA sequence for 22595.
SEQ ID NO:435 is the cDNA sequence for 22596.
SEQ ID NO:436 is the cDNA sequence for 22847.
10 SEQ ID NO:437 is the cDNA sequence for 22848.
SEQ ID NO:438 is the cDNA sequence for 22849.
SEQ ID NO:439 is the cDNA sequence for 22851.
SEQ ID NO:440 is the cDNA sequence for 22852.
SEQ ID NO:441 is the cDNA sequence for 22853.
15 SEQ ID NO:442 is the cDNA sequence for 22854.
SEQ ID NO:443 is the cDNA sequence for 22855.
SEQ ID NO:444 is the cDNA sequence for 22856.
SEQ ID NO:445 is the cDNA sequence for 22857.
SEQ ID NO:446 is the cDNA sequence for 23601.
20 SEQ ID NO:447 is the cDNA sequence for 23602.
SEQ ID NO:448 is the cDNA sequence for 23605.
SEQ ID NO:449 is the cDNA sequence for 23606.
SEQ ID NO:450 is the cDNA sequence for 23612.
SEQ ID NO:451 is the cDNA sequence for 23614.
25 SEQ ID NO:452 is the cDNA sequence for 23618.
SEQ ID NO:453 is the cDNA sequence for 23622.
SEQ ID NO:454 is the cDNA sequence for folate hydrolase.
SEQ ID NO:455 is the cDNA sequence for LIM protein.
SEQ ID NO:456 is the cDNA sequence for a known gene.
30 SEQ ID NO:457 is the cDNA sequence for a known gene.
SEQ ID NO:458 is the cDNA sequence for a previously identified gene.
SEQ ID NO:459 is the cDNA sequence for 23045.

SEQ ID NO:460 is the cDNA sequence for 23032.

SEQ ID NO:461 is the cDNA sequence for 23054.

SEQ ID NO:462-467 are cDNA sequences for known genes.

SEQ ID NO:468-471 are cDNA sequences for P710P.

5 SEQ ID NO:472 is a cDNA sequence for P1001C.

SEQ ID NO: 473 is the determined cDNA sequence for a first splice variant of P775P (referred to as 27505).

SEQ ID NO: 474 is the determined cDNA sequence for a second splice variant of P775P (referred to as 19947).

10 SEQ ID NO: 475 is the determined cDNA sequence for a third splice variant of P775P (referred to as 19941).

SEQ ID NO: 476 is the determined cDNA sequence for a fourth splice variant of P775P (referred to as 19937).

SEQ ID NO: 477 is a first predicted amino acid sequence encoded by the sequence of SEQ ID NO:
15 474.

SEQ ID NO: 478 is a second predicted amino acid sequence encoded by the sequence of SEQ ID NO: 474.

SEQ ID NO: 479 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 475.

20 SEQ ID NO: 480 is a first predicted amino acid sequence encoded by the sequence of SEQ ID NO: 473.

SEQ ID NO: 481 is a second predicted amino acid sequence encoded by the sequence of SEQ ID NO: 473.

SEQ ID NO: 482 is a third predicted amino acid sequence encoded by the sequence of SEQ ID NO:
25 473.

SEQ ID NO: 483 is a fourth predicted amino acid sequence encoded by the sequence of SEQ ID NO: 473.

SEQ ID NO: 484 is the first 30 amino acids of the *M. tuberculosis* antigen Ra12.

SEQ ID NO: 485 is the PCR primer AW025.

30 SEQ ID NO: 486 is the PCR primer AW003.

SEQ ID NO: 487 is the PCR primer AW027.

SEQ ID NO: 488 is the PCR primer AW026.

SEQ ID NO: 489-501 are peptides employed in epitope mapping studies.

SEQ ID NO: 502 is the determined cDNA sequence of the complementarity determining region for the anti-P503S monoclonal antibody 20D4.

5 SEQ ID NO: 503 is the determined cDNA sequence of the complementarity determining region for the anti-P503S monoclonal antibody JA1.

SEQ ID NO: 504 & 505 are peptides employed in epitope mapping studies.

SEQ ID NO: 506 is the determined cDNA sequence of the complementarity determining region for the anti-P703P monoclonal antibody 8H2.

10 SEQ ID NO: 507 is the determined cDNA sequence of the complementarity determining region for the anti-P703P monoclonal antibody 7H8.

SEQ ID NO: 508 is the determined cDNA sequence of the complementarity determining region for the anti-P703P monoclonal antibody 2D4.

SEQ ID NO: 509-522 are peptides employed in epitope mapping studies.

15 SEQ ID NO: 523 is a mature form of P703P used to raise antibodies against P703P. SEQ ID NO: 524 is the putative full-length cDNA sequence of P703P.

SEQ ID NO: 525 is the predicted amino acid sequence encoded by SEQ ID NO: 524.

SEQ ID NO: 526 is the full-length cDNA sequence for P790P.

SEQ ID NO: 527 is the predicted amino acid sequence for P790P.

SEQ ID NO: 528 & 529 are PCR primers.

20 SEQ ID NO: 530 is the cDNA sequence of a splice variant of SEQ ID NO: 366.

SEQ ID NO: 531 is the cDNA sequence of the open reading frame of SEQ ID NO: 530.

SEQ ID NO: 532 is the predicted amino acid encoded by the sequence of SEQ ID NO: 531.

SEQ ID NO: 533 is the DNA sequence of a putative ORF of P775P.

SEQ ID NO: 534 is the predicted amino acid sequence encoded by SEQ ID NO: 533.

25 SEQ ID NO: 535 is a first full-length cDNA sequence for P510S.

SEQ ID NO: 536 is a second full-length cDNA sequence for P510S.

SEQ ID NO: 537 is the predicted amino acid sequence encoded by SEQ ID NO: 535.

SEQ ID NO: 538 is the predicted amino acid sequence encoded by SEQ ID NO: 536.

SEQ ID NO: 539 is the peptide P501S-370.

30 SEQ ID NO: 540 is the peptide P501S-376.

SEQ ID NO: 541-550 are epitopes of P501S.

SEQ ID NO: 551 corresponds to amino acids 543-553 of P501S.

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate-specific polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate-specific protein or a variant thereof. A "prostate-specific protein" is a protein that is expressed in normal prostate and/or prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a non-prostate normal tissue, as determined using a representative assay provided herein. Certain prostate-specific proteins are proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

The present invention is based on the discovery of human prostate-specific proteins. Sequences of polynucleotides encoding certain prostate-specific proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382, 384-476, 524, 526, 530, 531, 533, 535 and 536. Sequences of polypeptides comprising at least a portion of a prostate-specific protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380, 383, 477-483, 496, 504, 505, 519, 520, 522, 525, 527, 532, 534 and 537-550.

PROSTATE-SPECIFIC PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate-specific protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred

polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate-specific protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate-specific protein. Polynucleotides complementary to any such sequences are also
5 encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the
10 present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate-specific protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions
15 and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate-specific protein or a portion thereof. The
20 term "variants" also encompasses homologous genes of xenogenic origin.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local
25 regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, 40 to about 50, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the
30 Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices

for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) *Unified Approach to Alignment and Phylogenesis* pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate-specific protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such

as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate-specific than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate-specific cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (*e.g.*, a prostate-specific cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (*e.g.*, by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (*see* Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into

a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments; using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids. Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence. Full length DNA sequences may also be obtained by analysis of genomic fragments.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate-specific protein are provided in SEQ ID NO:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382, 384-476, 524, 526, 530, 531, 533, 535 and 536.

Isolation of these polynucleotides is described below. Each of these prostate-specific proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate-specific protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (*e.g.*, by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate-specific polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (*e.g.*, promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3'

ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl- methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

5 Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector
10 will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for
15 therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (e.g., avian pox virus). The polynucleotides may also be administered as naked plasmid vectors.
20 Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary
25 skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (i.e., an artificial membrane
30 vesicle). The preparation and use of such systems is well known in the art.

PROSTATE-SPECIFIC POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate-specific protein or a variant thereof, as described herein. As noted above, a "prostate-specific protein" is a protein that is expressed by normal prostate and/or prostate tumor cells. Proteins that are prostate-specific proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate-specific protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate-specific protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the

immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate-specific protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate-specific protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydrophathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino

acids that have minimal influence on the immunogenicity, secondary structure and hydrophobic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (e.g., poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast, higher eukaryotic and plant cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known prostate-specific protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner),

preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are

located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see*, for example, Stoute et al. *New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its

original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector
5 that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate-specific protein. As used herein, an
10 antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate-specific protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate-specific protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding
15 constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

20 Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate-specific protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals
25 without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (e.g., blood, sera, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the
30 above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Most preferably, antibodies employed in the inventive methods have the ability to induce lysis of tumor cells by activation of complement and mediation of antibody-dependent cellular cytotoxicity (ADCC). Antibodies of different classes and subclasses differ in these properties. For example, mouse antibodies of the IgG2a and IgG3 classes are capable of activating serum complement upon binding to target cells which express the antigen against which the antibodies were raised, and can mediate ADCC.

Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (e.g., mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (i.e., reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells

and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are
5 selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse.
10 Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

The preparation of mouse and rabbit monoclonal antibodies that specifically bind to
15 polypeptides of the present invention is described in detail below. However, the antibodies of the present invention are not limited to those derived from mice. Human antibodies may also be employed in the inventive methods and may prove to be preferable. Such antibodies can be obtained using human hybridomas as described by Cote *et al.* (Monoclonal Antibodies and Cancer Therapy, Alan R. Lisa, p. 77, 1985). The present invention also encompasses antibodies made by
20 recombinant means such as chimeric antibodies, wherein the variable region and constant region are derived from different species, and CDR-grafted antibodies, wherein the complementarity determining region is derived from a different species, as described in US Patents 4,816,567 and 5,225,539. Chimeric antibodies may be prepared by splicing genes for a mouse antibody molecule having a desired antigen specificity together with genes for a human antibody molecule having the
25 desired biological activity, such as activation of human complement and mediation of ADCC (Morrison *et al. Proc. Natl. Acad. Sci. USA* 81:6851, 1984; Neuberger *et al. Nature* 312:604, 1984; Takeda *et al. Nature* 314:452, 1985).

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard
30 techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*,

Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, Pseudomonas exotoxin, Shigella toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to

Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

5 It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or
10 linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

 A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent
15 No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating
20 compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

 A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of
25 a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

30 Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate-specific protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral

blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the ISOLEX™ system, available from Nexell Therapeutics Inc., Irvine, CA (see also U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated
5 humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate-specific polypeptide, polynucleotide encoding a prostate-specific polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate-specific
10 polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate-specific polypeptide if the T cells specifically proliferate, secrete cytokines or kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a
15 variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell
20 proliferation can be detected by measuring an increased rate of DNA synthesis (e.g., by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate-specific polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of
25 the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (e.g., TNF or IFN-γ) is indicative of T cell activation (see Coligan et al., *Current Protocols in Immunology*, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a prostate-specific polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Prostate-specific protein-specific T cells may be expanded using
30 standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a prostate-specific polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate-specific polypeptide, or a short peptide
5 corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate-specific polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate-specific protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

10

PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds
15 and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and an immunostimulant. An immunostimulant may be any substance that enhances an immune response to an exogenous antigen. Examples of immunostimulants include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally
20 described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the
25 composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression
30 systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression

in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (e.g., vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA

or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of immunostimulants may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- γ , TNF α , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6 and IL-10) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt. MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; see US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example,

an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent
5 adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release
10 formulation (*i.e.*, a formulation such as a capsule, sponge or gel (composed of polysaccharides for example) that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix
15 and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical
20 compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the
25 antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or
30 progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy,

Ann. Rev. Med. 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*), their ability to take-up, process and present antigens with high efficiency, and their ability to activate naïve T cell responses. Dendritic cells may, of course, be engineered to express specific cell-surface
5 receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (see Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone
10 marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into
15 dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce differentiation, maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this
20 nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor and mannose receptor. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II
25 MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80, CD86 and 4-1BB).

APCs may generally be transfected with a polynucleotide encoding a prostate-specific protein (or portion or other variant thereof) such that the prostate-specific polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex*
30 *vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection

that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells
5 with the prostate-specific polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (*e.g.*, a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of
10 the polypeptide.

CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical
15 compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor.
20 Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react
25 against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not
30 necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer

cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The polypeptides provided herein may also be used to generate
5 antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in*
10 *vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte,
15 fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies
20 have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see*, for example, Cheever et al., *Immunological Reviews* 157:177, 1997).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back
25 into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established
30 using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered

over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 25 µg to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate-specific protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate-specific proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer.

In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. *See, e.g., Harlow and Lane, 5 Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized
10 on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G,
15 protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full
20 length prostate-specific proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or
25 disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization"
30 refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a

membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 µg, and preferably about 100 ng to about 1 µg, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.*, Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by

assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains
5 a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of
10 time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group
15 (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a
20 signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred embodiment, the cut-off value is
25 determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest
30 to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along

the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate-specific polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate-specific protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate-specific protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a prostate-specific polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that

expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may
5 be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate-specific polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate-specific polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater
10 and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate-specific protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to
15 amplify a portion of a prostate-specific cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate-specific protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate-specific protein may be used in a hybridization
20 assay to detect the presence of polynucleotide encoding the protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate-specific protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in
25 length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10 contiguous nucleotides, more preferably at least 15
30 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382, 384-476, 524, 526, 530, 531, 533, 535 and 536. Techniques for both PCR based assays and hybridization assays

are well known in the art (*see, for example, Mullis et al., Cold Spring Harbor Symp. Quant. Biol., 51:263, 1987; Erlich ed., PCR Technology, Stockton Press, NY, 1989*).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate-specific protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For
5 example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate-specific protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or
10 indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate-specific protein in a biological sample. Such kits generally comprise at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate-specific protein. Such an oligonucleotide may be used, for example, within a PCR or
15 hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate-specific protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

EXAMPLE 1

5 ISOLATION AND CHARACTERIZATION OF PROSTATE-SPECIFIC POLYPEPTIDES

This Example describes the isolation of certain prostate-specific polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate
10 tumor poly A⁺ RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A⁺ RNA was then purified using a Qiagen oligotex spin column mRNA
15 purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into
20 ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained 1.64×10^7
25 independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained 3.3×10^6 independent colonies, with 69% of clones having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

30 cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as

follows. Normal pancreas cDNA library (70 µg) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100 µl of H₂O, heat-denatured and mixed with 100 µl (100 µg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As
5 recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50 µl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 µl H₂O to form the driver DNA.

To form the tracer DNA, 10 µg prostate tumor cDNA library was digested with
10 BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5 µl H₂O. Tracer DNA was mixed with 15 µl driver DNA and 20 µl of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and
15 incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 µl H₂O, mixed with 8 µl driver DNA and 20 µl of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA
20 was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK⁺ (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E. coli* DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and
25 grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively,
30 with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 µg each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA

library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show
5 some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted amino acid
10 sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided
15 in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein,
20 mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO:73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

25 Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in
30 SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated

clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193, respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA⁺ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni,

Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339. Two variant full-length cDNA sequences for P510S are provided in SEQ ID NO: 535 and 536, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 537 and 538, respectively.

EXAMPLE 2

DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE-SPECIFIC POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate-specific polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2 μ g of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR, β -actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using β -actin specific primers. A dilution was then chosen that enabled the linear range amplification of the β -actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the β -actin levels were determined for each

reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney,

but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatzis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney). The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

EXAMPLE 3

ISOLATION AND CHARACTERIZATION OF PROSTATE-SPECIFIC POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences
5 for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the
10 isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-
15 170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA
20 sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary
25 (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a
30 portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of

2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the micro-array technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable. Increased expression of 8-F11 was seen in prostate tumor and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both micro-array technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. The putative full-length cDNA sequence for P703P is provided in SEQ ID NO: 524, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 525.

Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively. The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues. Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

Further studies on P775P resulted in the isolation of four additional sequences (SEQ ID NO: 473-476) which are all splice variants of the P775P gene. The sequence of SEQ ID NO: 474 was found to contain two open reading frames (ORFs). The predicted amino acid sequences encoded by these ORFs are provided in SEQ ID NO: 477 and 478. The cDNA sequence of SEQ ID NO: 475 was found to contain an ORF which encodes the amino acid sequence of SEQ ID NO: 479. The cDNA sequence of SEQ ID NO: 473 was found to contain four ORFs. The predicted amino acid sequences encoded by these ORFs are provided in SEQ ID NO: 480-483.

Subsequent studies led to the identification of a genomic region on chromosome 22q11.2, known as the Cat Eye Syndrome region, that contains the five prostate genes P704P, P712P, P774P, P775P and B305D. The relative location of each of these five genes within the genomic region is shown in Fig. 10. This region may therefore be associated with malignant tumors, and other potential tumor genes may be contained within this region. These studies also led

to the identification of a potential open reading frame (ORF) for P775P (provided in SEQ ID NO: 533), which encodes the amino acid sequence of SEQ ID NO: 534.

EXAMPLE 4

SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using FMOC chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 5

FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE-SPECIFIC POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the

subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JPTPN23 (SEQ ID NO: 231; similarity to pig valosin-containing protein), JPTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JPTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JPTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most

recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350, 351 and 353-365.

Further studies on the clone of SEQ ID NO: 352 (referred to as P790P) led to the isolation of the full-length cDNA sequence of SEQ ID NO: 526. The corresponding predicted amino acid is provided in SEQ ID NO: 527. Data from two quantitative PCR experiments indicated that P790P is over-expressed in 11/15 tested prostate tumor samples and is expressed at low levels in spinal cord, with no expression being seen in all other normal samples tested. Data from further PCR experiments and microarray experiments showed over-expression in normal prostate and prostate tumor with little or no expression in other tissues tested. P790P was subsequently found to show significant homology to a previously identified G-protein coupled prostate tissue receptor.

EXAMPLE 6

PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

5 6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2Kb (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID
10 NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100µg of P2S#12 and 120µg of an I-A^b binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at 6×10^6 cells/ml in complete media (RPMI-1640; Gibco
15 BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL), 2×10^{-5} M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml β 2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later, cells ($5 \times$
20 10^5 /ml) were restimulated with 2.5×10^6 /ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and 3×10^6 /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb
25 tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2Kb expressing) transduced with P502S than against control fibroblasts. An example is presented in
30 Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2Kb molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200 µg/ml were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2Kb were immunized as described by Theobald *et al.* (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5µg of P1S #10 and 120µg of an I-A^b binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at 6×10^6 cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed (2µg/ml P1S#10 and 10mg/ml β2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later cells (5×10^5 /ml) were restimulated with 2.5×10^6 /ml peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and 3×10^6 /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

EXAMPLE 7

PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate-specific antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 μ g P501S in the vector VR1012 either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed HLA-A2-restricted CTL epitope.

EXAMPLE 8

ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE-SPECIFIC POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8⁺ T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8⁺ T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a γ -interferon

ELISPOT assay (*see* Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on 10^4 fibroblasts in the presence of 3 $\mu\text{g/ml}$ human β_2 -microglobulin and 1 $\mu\text{g/ml}$ P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml γ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a γ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

EXAMPLE 9

ELICITATION OF PROSTATE ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate-specific antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GM-CSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8⁺ cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles using autologous fibroblasts retrovirally transduced

to express P501S and CD80, CD8+ lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays (^{51}Cr release) and interferon-gamma production (Interferon-gamma Elispot; *see* above and Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). The results of these assays are presented in Figures 6A and 6B.

EXAMPLE 10

IDENTIFICATION OF A NATURALLY PROCESSED CTL EPIOTOPE CONTAINED WITHIN A PROSTATE-SPECIFIC ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific human CD8+ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed and P703P-transduced target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2Kb transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of HLA-A2Kb or HLA-A2 transduced target cells expressing P703P.

Initial studies demonstrating that p5 is a naturally processed epitope were done using HLA-A2Kb transgenic mice. HLA-A2Kb transgenic mice were immunized subcutaneously in the footpad with 100 μg of p5 peptide together with 140 μg of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro* stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived

from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with 1 ug/ml p5 peptide and cultured with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated. CTL were additionally shown to recognize human cells transduced to express P703P, demonstrating that p5 is a naturally processed epitope.

EXAMPLE 11

EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively. In further studies, a splice variant of the cDNA sequence of SEQ ID NO: 366 was isolated which was found to contain an additional guanine residue at position 884 (SEQ ID NO: 530), leading to a frameshift in the open reading frame. The determined DNA sequence of this ORF is provided in SEQ ID NO: 531. This frameshift generates a protein sequence (provided in SEQ ID NO: 532) of 293 amino acids that contains the C-terminal domain common to the other isoforms of B305D but that differs in the N-terminal region.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

EXAMPLE 12

GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE-SPECIFIC ANTIGEN

Using *in vitro* whole-gene priming with P501S-vaccinia infected DC (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon- γ ELISPOT analysis as described above. Using a panel of
5 HLA-mismatched B-LCL lines transduced with P501S, these CTL lines were shown to be likely restricted to HLAB class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a
10 multiplicity of infection (M.O.I) of five, and matured overnight by the addition of 3 μ g/ml CD40 ligand. Virus was inactivated by UV irradiation. CD8+ T cells were isolated using a magnetic bead system, and priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S and CD80. Following four stimulation cycles, CD8+ T cell lines were identified that
15 specifically produced interferon- γ when stimulated with P501S and CD80-transduced autologous fibroblasts. A panel of HLA-mismatched B-LCL lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon- γ in an ELISPOT assay, the P501S specific response was shown to be likely restricted by HLA B alleles. These results demonstrate that a CD8+ CTL response to P501S can be elicited.

20 To identify the epitope(s) recognized, cDNA encoding P501S was fragmented by various restriction digests, and sub-cloned into the retroviral expression vector pBIB-KS. Retroviral supernatants were generated by transfection of the helper packaging line Phoenix-Ampho. Supernatants were then used to transduce Jurkat/A2Kb cells for CTL screening. CTL were screened in IFN-gamma ELISPOT assays against these A2Kb targets transduced with the "library" of P501S
25 fragments. Initial positive fragments P501S/H3 and P501S/F2 were sequenced and found to encode amino acids 106-553 and amino acids 136-547, respectively, of SEQ ID NO: 113. A truncation of H3 was made to encode amino acid residues 106-351 of SEQ ID NO: 113, which was unable to stimulate the CTL, thus localizing the epitope to amino acid residues 351-547. Additional fragments encoding amino acids 1-472 (Fragment A) and amino acids 1-351 (Fragment B) were
30 also constructed. Fragment A but not Fragment B stimulated the CTL thus localizing the epitope to amino acid residues 351-472. Overlapping 20-mer and 18-mer peptides representing this region were tested by pulsing Jurkat/A2Kb cells versus CTL in an IFN-gamma assay. Only peptides

P501S-369(20) and P501S-369(18) stimulated the CTL. Nine-mer and 10-mer peptides representing this region were synthesized and similarly tested. Peptide P501S-370 (SEQ ID NO: 539) was the minimal 9-mer giving a strong response. Peptide P501S-376 (SEQ ID NO: 540) also gave a weak response, suggesting that it might represent a cross-reactive epitope.

5 In subsequent studies, the ability of primary human B cells transduced with P501S to prime MHC class I-restricted, P501S-specific, autologous CD8 T cells was examined. Primary B cells were derived from PBMC of a homozygous HLA-A2 donor by culture in CD40 ligand and IL-4, transduced at high frequency with recombinant P501S in the vector pBIB, and selected with blastocidin-S. For *in vitro* priming, purified CD8⁺ T cells were cultured with autologous CD40
10 ligand + IL-4 derived, P501S-transduced B cells in a 96-well microculture format. These CTL microcultures were re-stimulated with P501S-transduced B cells and then assayed for specificity. Following this initial screen, microcultures with significant signal above background were cloned on autologous EBV-transformed B cells (BLCL), also transduced with P501S. Using IFN-gamma ELISPOT for detection, several of these CD8 T cell clones were found to be specific for P501S, as
15 demonstrated by reactivity to BLCL/P501S but not BLCL transduced with control antigen. It was further demonstrated that the anti-P501S CD8 T cell specificity is HLA-A2-restricted. First, antibody blocking experiments with anti-HLA-A,B,C monoclonal antibody (W6.32), anti-HLA-B,C monoclonal antibody (B1.23.2) and a control monoclonal antibody showed that only the anti-HLA-A,B,C antibody blocked recognition of P501S-expressing autologous BLCL. Secondly, the anti-
20 P501S CTL also recognized an HLA-A2 matched, heterologous BLCL transduced with P501S, but not the corresponding EGFP transduced control BLCL.

EXAMPLE 13

IDENTIFICATION OF PROSTATE-SPECIFIC ANTIGENS BY MICROARRAY ANALYSIS

25

This Example describes the isolation of certain prostate-specific polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in
30 prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences

SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

5

Table I
Summary of Prostate Tumor Antigens

Known Genes	Previously Identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-itol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang (23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	
transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-idoitol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97%

of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

EXAMPLE 14

IDENTIFICATION OF PROSTATE-SPECIFIC ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate-specific antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped (aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups: Plus (normal prostate and prostate tumor libraries, and breast cell line libraries, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (libraries from fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which

expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

Table II

Prostate cDNA Libraries and ESTs

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups:

- 10 Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones derived from the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones derived from the Plus, Minus and Other group libraries, but the number of ESTs derived from the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones derived from Plus, Minus and Other group
- 15 libraries, but the number derived from the Plus group is higher than the number derived from the Minus group. This analysis identified 4,345 breast clusters (*see* Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

Table III
Prostate Cluster Summary

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The EST clone inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high levels of tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor and normal prostate mRNA was at least three times the level in other normal tissue mRNA) were identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NO: 401-453, with certain novel sequences shown in SEQ ID NO: 407, 413, 416-419, 422, 426, 427 and 450.

Table IV
Prostate-tumor Specific Clones

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P
403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P
433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57
439	22851	PAP

440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

EXAMPLE 15

FURTHER IDENTIFICATION OF PROSTATE-SPECIFIC ANTIGENS BY MICROARRAY
ANALYSIS

5

This Example describes the isolation of additional prostate-specific polypeptides from a prostate tumor cDNA library.

10 A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NO: 454-467. Of these sequences, SEQ ID NO: 459-461 represent novel genes. The others (SEQ ID NO: 454-458 and 461-467) correspond to known sequences.

15

EXAMPLE 16

FURTHER CHARACTERIZATION OF PROSTATE-SPECIFIC ANTIGEN P710P

20

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane

filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic Perkin Elmer/Applied Biosystems Division Sequencer. Four
5 sequences were obtained, and are presented in SEQ ID NO: 468-471. These sequences appear to represent different splice variants of the P710P gene.

EXAMPLE 17

PROTEIN EXPRESSION OF THE PROSTATE-SPECIFIC ANTIGEN P501S

10 This example describes the expression and purification of the prostate-specific antigen P501S in *E. coli*, baculovirus and mammalian cells.

a) Expression in *E. coli*

15 Expression of the full-length form of P501S was attempted by first cloning P501S without the leader sequence (amino acids 36-553 of SEQ ID NO: 113) downstream of the first 30 amino acids of the *M. tuberculosis* antigen Ra12 (SEQ ID NO: 484) in pET17b. Specifically, P501S DNA was used to perform PCR using the primers AW025 (SEQ ID NO: 485) and AW003 (SEQ ID NO: 486). AW025 is a sense cloning primer that contains a HindIII site. AW003 is an
20 antisense cloning primer that contains an EcoRI site. DNA amplification was performed using 5 µl 10X Pfu buffer, 1 µl 20 mM dNTPs, 1 µl each of the PCR primers at 10 µM concentration, 40 µl water, 1 µl Pfu DNA polymerase (Stratagene, La Jolla, CA) and 1 µl DNA at 100 ng/µl. Denaturation at 95°C was performed for 30 sec, followed by 10 cycles of 95°C for 30 sec, 60°C for 1 min and by 72°C for 3 min. 20 cycles of 95°C for 30 sec, 65°C for 1 min and by 72°C for 3 min,
25 and lastly by 1 cycle of 72°C for 10 min. The PCR product was cloned to Ra12m/pET17b using HindIII and EcoRI. The sequence of the resulting fusion construct (referred to as Ra12-P501S-F) was confirmed by DNA sequencing.

The fusion construct was transformed into BL21(DE3)pLysE, pLysS and CodonPlus
E. coli (Stratagene) and grown overnight in LB broth with kanamycin. The resulting culture was
30 induced with IPTG. Protein was transferred to PVDF membrane and blocked with 5% non-fat milk (in PBS-Tween buffer), washed three times and incubated with mouse anti-His tag antibody (Clontech) for 1 hour. The membrane was washed 3 times and probed with HRP-Protein A

(Zymed) for 30 min. Finally, the membrane was washed 3 times and developed with ECL (Amersham). No expression was detected by Western blot. Similarly, no expression was detected by Western blot when the Ra12-P501S-F fusion was used for expression in BL21CodonPlus by CE6 phage (Invitrogen).

5 An N-terminal fragment of P501S (amino acids 36-325 of SEQ ID NO: 113) was cloned down-stream of the first 30 amino acids of the *M. tuberculosis* antigen Ra12 in pET17b as follows. P501S DNA was used to perform PCR using the primers AW025 (SEQ ID NO: 485) and AW027 (SEQ ID NO: 487). AW027 is an antisense cloning primer that contains an EcoRI site and a stop codon. DNA amplification was performed essentially as described above. The resulting PCR
10 product was cloned to Ra12 in pET17b at the HindIII and EcoRI sites. The fusion construct (referred to as Ra12-P501S-N) was confirmed by DNA sequencing.

The Ra12-P501S-N fusion construct was used for expression in BL21(DE3)pLysE, pLysS and CodonPlus, essentially as described above. Using Western blot analysis, protein bands were observed at the expected molecular weight of 36 kDa. Some high molecular weight bands
15 were also observed, probably due to aggregation of the recombinant protein. No expression was detected by Western blot when the Ra12-P501S-F fusion was used for expression in BL21CodonPlus by CE6 phage.

A fusion construct comprising a C-terminal portion of P501S (amino acids 257-553 of SEQ ID NO: 113) located down-stream of the first 30 amino acids of the *M. tuberculosis* antigen
20 Ra12 (SEQ ID NO: 484) was prepared as follows. P501S DNA was used to perform PCR using the primers AW026 (SEQ ID NO: 488) and AW003 (SEQ ID NO: 486). AW026 is a sense cloning primer that contains a HindIII site. DNA amplification was performed essentially as described above. The resulting PCR product was cloned to Ra12 in pET17b at the HindIII and EcoRI sites. The sequence for the fusion construct (referred to as Ra12-P501S-C) was confirmed.

25 The Ra12-P501S-C fusion construct was used for expression in BL21(DE3)pLysE, pLysS and CodonPlus, as described above. A small amount of protein was detected by Western blot, with some molecular weight aggregates also being observed. Expression was also detected by Western blot when the Ra12-P501S-C fusion was used for expression in BL21CodonPlus induced by CE6 phage.

b) Expression of P501S in Baculovirus

The Bac-to-Bac baculovirus expression system (BRL Life Technologies, Inc.) was used to express P501S protein in insect cells. Full-length P501S (SEQ ID NO: 113) was amplified by PCR and cloned into the XbaI site of the donor plasmid pFastBacI. The recombinant bacmid and baculovirus were prepared according to the manufacturer's instructions. The recombinant baculovirus was amplified in Sf9 cells and the high titer viral stocks were utilized to infect High Five cells (Invitrogen) to make the recombinant protein. The identity of the full-length protein was confirmed by N-terminal sequencing of the recombinant protein and by Western blot analysis (Figure 7). Specifically, 0.6 million High Five cells in 6-well plates were infected with either the unrelated control virus BV/ECD_PD (lane 2), with recombinant baculovirus for P501S at different amounts or MOIs (lanes 4-8), or were uninfected (lane 3). Cell lysates were run on SDS-PAGE under reducing conditions and analyzed by Western blot with the anti-P501S monoclonal antibody P501S-10E3-G4D3 (prepared as described below). Lane 1 is the biotinylated protein molecular weight marker (BioLabs).

The localization of recombinant P501S in the insect cells was investigated as follows. The insect cells overexpressing P501S were fractionated into fractions of nucleus, mitochondria, membrane and cytosol. Equal amounts of protein from each fraction were analyzed by Western blot with a monoclonal antibody against P501S. Due to the scheme of fractionation, both nucleus and mitochondria fractions contain some plasma membrane components. However, the membrane fraction is basically free from mitochondria and nucleus. P501S was found to be present in all fractions that contain the membrane component, suggesting that P501S may be associated with plasma membrane of the insect cells expressing the recombinant protein.

c) Expression of P501S in mammalian cells

Full-length P501S (553AA) was cloned into various mammalian expression vectors, including pCEP4 (Invitrogen), pVR1012 (Vical, San Diego, CA) and a modified form of the retroviral vector pBMN, referred to as pBIB. Transfection of P501S/pCEP4 and P501S/pVR1012 into HEK293 fibroblasts was carried out using the Fugene transfection reagent (Boehringer Mannheim). Briefly, 2 ul of Fugene reagent was diluted into 100 ul of serum-free media and incubated at room temperature for 5-10 min. This mixture was added to 1 ug of P501S plasmid DNA, mixed briefly and incubated for 30 minutes at room temperature. The Fugene/DNA mixture

was added to cells and incubated for 24-48 hours. Expression of recombinant P501S in transfected HEK293 fibroblasts was detected by means of Western blot employing a monoclonal antibody to P501S.

Transfection of p501S/pCEP4 into CHO-K cells (American Type Culture Collection, Rockville, MD) was carried out using GenePorter transfection reagent (Gene Therapy Systems, San Diego, CA). Briefly, 15 µl of GenePorter was diluted in 500 µl of serum-free media and incubated at room temperature for 10 min. The GenePorter/media mixture was added to 2 µg of plasmid DNA that was diluted in 500 µl of serum-free media, mixed briefly and incubated for 30 min at room temperature. CHO-K cells were rinsed in PBS to remove serum proteins, and the GenePorter/DNA mix was added and incubated for 5 hours. The transfected cells were then fed an equal volume of 2x media and incubated for 24-48 hours.

FACS analysis of P501S transiently infected CHO-K cells, demonstrated surface expression of P501S. Expression was detected using rabbit polyclonal antisera raised against a P501S peptide, as described below. Flow cytometric analysis was performed using a FaCScan (Becton Dickinson), and the data were analyzed using the Cell Quest program.

EXAMPLE 18

PREPARATION AND CHARACTERIZATION OF ANTIBODIES AGAINST PROSTATE-SPECIFIC POLYPEPTIDES

a) Preparation and Characterization of Antibodies against P501S

A murine monoclonal antibody directed against the carboxy-terminus of the prostate-specific antigen P501S was prepared as follows.

A truncated fragment of P501S (amino acids 355-526 of SEQ ID NO: 113) was generated and cloned into the pET28b vector (Novagen) and expressed in *E. coli* as a thioredoxin fusion protein with a histidine tag. The trx-P501S fusion protein was purified by nickel chromatography, digested with thrombin to remove the trx fragment and further purified by an acid precipitation procedure followed by reverse phase HPLC.

Mice were immunized with truncated P501S protein. Serum bleeds from mice that potentially contained anti-P501S polyclonal sera were tested for P501S-specific reactivity using ELISA assays with purified P501S and trx-P501S proteins. Serum bleeds that appeared to react specifically with P501S were then screened for P501S reactivity by Western analysis. Mice that contained a P501S-specific antibody component were sacrificed and spleen cells were used to

generate anti-P501S antibody producing hybridomas using standard techniques. Hybridoma supernatants were tested for P501S-specific reactivity initially by ELISA, and subsequently by FACS analysis of reactivity with P501S transduced cells. Based on these results, a monoclonal hybridoma referred to as 10E3 was chosen for further subcloning. A number of subclones were generated, tested for specific reactivity to P501S using ELISA and typed for IgG isotype. The results of this analysis are shown below in Table V. Of the 16 subclones tested, the monoclonal antibody 10E3-G4-D3 was selected for further study.

Table V

10

Isotype analysis of murine anti-P501S monoclonal antibodies

Hybridoma clone	Isotype	Estimated [Ig] in supernatant ($\mu\text{g/ml}$)
4D11	IgG1	14.6
1G1	IgG1	0.6
4F6	IgG1	72
4H5	IgG1	13.8
4H5-E12	IgG1	10.7
4H5-EH2	IgG1	9.2
4H5-H2-A10	IgG1	10
4H5-H2-A3	IgG1	12.8
4H5-H2-A10-G6	IgG1	13.6
4H5-H2-B11	IgG1	12.3
10E3	IgG2a	3.4
10E3-D4	IgG2a	3.8
10E3-D4-G3	IgG2a	9.5
10E3-D4-G6	IgG2a	10.4
10E3-E7	IgG2a	6.5
8H12	IgG2a	0.6

The specificity of 10E3-G4-D3 for P501S was examined by FACS analysis. Specifically, cells were fixed (2% formaldehyde, 10 minutes), permeabilized (0.1% saponin, 10 minutes) and stained with 10E3-G4-D3 at 0.5 – 1 $\mu\text{g/ml}$, followed by incubation with a secondary, FITC-conjugated goat anti-mouse Ig antibody (Pharmingen, San Diego, CA). Cells were then analyzed for FITC fluorescence using an Excalibur fluorescence activated cell sorter. For FACS analysis of transduced cells, B-LCL were retrovirally transduced with P501S. For analysis of infected cells, B-LCL were infected with a vaccinia vector that expresses P501S. To demonstrate

specificity in these assays, B-LCL transduced with a different antigen (P703P) and uninfected B-LCL vectors were utilized. 10E3-G4-D3 was shown to bind with P501S-transduced B-LCL and also with P501S-infected B-LCL, but not with either uninfected cells or P703P-transduced cells.

To determine whether the epitope recognized by 10E3-G4-D3 was found on the surface or in an intracellular compartment of cells, B-LCL were transduced with P501S or HLA-B8 as a control antigen and either fixed and permeabilized as described above or directly stained with 10E3-G4-D3 and analyzed as above. Specific recognition of P501S by 10E3-G4-D3 was found to require permeabilization, suggesting that the epitope recognized by this antibody is intracellular.

The reactivity of 10E3-G4-D3 with the three prostate tumor cell lines Lncap, PC-3 and DU-145, which are known to express high, medium and very low levels of P501S, respectively, was examined by permeabilizing the cells and treating them as described above. Higher reactivity of 10E3-G4-D3 was seen with Lncap than with PC-3, which in turn showed higher reactivity than DU-145. These results are in agreement with the real time PCR and demonstrate that the antibody specifically recognizes P501S in these tumor cell lines and that the epitope recognized in prostate tumor cell lines is also intracellular.

Specificity of 10E3-G4-D3 for P501S was also demonstrated by Western blot analysis. Lysates from the prostate tumor cell lines Lncap, DU-145 and PC-3, from P501S-transiently transfected HEK293 cells, and from non-transfected HEK293 cells were generated. Western blot analysis of these lysates with 10E3-G4-D3 revealed a 46 kDa immunoreactive band in Lncap, PC-3 and P501S-transfected HEK cells, but not in DU-145 cells or non-transfected HEK293 cells. P501S mRNA expression is consistent with these results since semi-quantitative PCR analysis revealed that P501S mRNA is expressed in Lncap, to a lesser but detectable level in PC-3 and not at all in DU-145 cells. Bacterially expressed and purified recombinant P501S (referred to as P501SStr2) was recognized by 10E3-G4-D3 (24 kDa), as was full-length P501S that was transiently expressed in HEK293 cells using either the expression vector VR1012 or pCEP4. Although the predicted molecular weight of P501S is 60.5 kDa, both transfected and "native" P501S run at a slightly lower mobility due to its hydrophobic nature.

Immunohistochemical analysis was performed on prostate tumor and a panel of normal tissue sections (prostate, adrenal, breast, cervix, colon, duodenum, gall bladder, ileum, kidney, ovary, pancreas, parotid gland, skeletal muscle, spleen and testis). Tissue samples were fixed in formalin solution for 24 hours and embedded in paraffin before being sliced into 10 micron sections. Tissue sections were permeabilized and incubated with 10E3-G4-D3 antibody for 1 hr.

HRP-labeled anti-mouse followed by incubation with DAB chromogen was used to visualize P501S immunoreactivity. P501S was found to be highly expressed in both normal prostate and prostate tumor tissue but was not detected in any of the other tissues tested.

To identify the epitope recognized by 10E3-G4-D3, an epitope mapping approach was pursued. A series of 13 overlapping 20-21 mers (5 amino acid overlap; SEQ ID NO: 489-501) was synthesized that spanned the fragment of P501S used to generate 10E3-G4-D3. Flat bottom 96 well microtiter plates were coated with either the peptides or the P501S fragment used to immunize mice, at 1 microgram/ml for 2 hours at 37 °C. Wells were then aspirated and blocked with phosphate buffered saline containing 1% (w/v) BSA for 2 hours at room temperature, and subsequently washed in PBS containing 0.1% Tween 20 (PBST). Purified antibody 10E3-G4-D3 was added at 2 fold dilutions (1000 ng – 16 ng) in PBST and incubated for 30 minutes at room temperature. This was followed by washing 6 times with PBST and subsequently incubating with HRP-conjugated donkey anti-mouse IgG (H+L) Affinipure F(ab') fragment (Jackson ImmunoResearch, West Grove, PA) at 1:20000 for 30 minutes. Plates were then washed and incubated for 15 minutes in tetramethyl benzidine. Reactions were stopped by the addition of 1N sulfuric acid and plates were read at 450 nm using an ELISA plate reader. As shown in Fig. 8, reactivity was seen with the peptide of SEQ ID NO: 496 (corresponding to amino acids 439-459 of P501S) and with the P501S fragment but not with the remaining peptides, demonstrating that the epitope recognized by 10E3-G4-D3 is localized to amino acids 439-459 of SEQ ID NO: 113.

In order to further evaluate the tissue specificity of P501S, multi-array immunohistochemical analysis was performed on approximately 4700 different human tissues encompassing all the major normal organs as well as neoplasias derived from these tissues. Sixty-five of these human tissue samples were of prostate origin. Tissue sections 0.6 mm in diameter were formalin-fixed and paraffin embedded. Samples were pretreated with HIER using 10 mM citrate buffer pH 6.0 and boiling for 10 min. Sections were stained with 10E3-G4-D3 and P501S immunoreactivity was visualized with HRP. All the 65 prostate tissues samples (5 normal, 55 untreated prostate tumors, 5 hormone refractory prostate tumors) were positive, showing distinct perinuclear staining. All other tissues examined were negative for P501S expression.

b) Preparation and Characterization of Antibodies against P503S

A fragment of P503S (amino acids 113-241 of SEQ ID NO: 114) was expressed and purified from bacteria essentially as described above for P501S and used to immunize both rabbits

and mice. Mouse monoclonal antibodies were isolated using standard hybridoma technology as described above. Rabbit monoclonal antibodies were isolated using Selected Lymphocyte Antibody Method (SLAM) technology at Immgenics Pharmaceuticals (Vancouver, BC, Canada). Table VI, below, lists the monoclonal antibodies that were developed against P503S.

5

Table VI

Antibody	Species
20D4	Rabbit
JA1	Rabbit
1A4	Mouse
1C3	Mouse
1C9	Mouse
1D12	Mouse
2A11	Mouse
2H9	Mouse
4H7	Mouse
8A8	Mouse
8D10	Mouse
9C12	Mouse
6D12	Mouse

The DNA sequences encoding the complementarity determining regions (CDRs) for the rabbit monoclonal antibodies 20D4 and JA1 were determined and are provided in SEQ ID NO: 502 and 503, respectively.

In order to better define the epitope binding region of each of the antibodies, a series of overlapping peptides were generated that span amino acids 109-213 of SEQ ID NO: 114. These peptides were used to epitope map the anti-P503S monoclonal antibodies by ELISA as follows.

The recombinant fragment of P503S that was employed as the immunogen was used as a positive control. Ninety-six well microtiter plates were coated with either peptide or recombinant antigen at 20 ng/well overnight at 4 °C. Plates were aspirated and blocked with phosphate buffered saline containing 1% (w/v) BSA for 2 hours at room temperature then washed in PBS containing 0.1% Tween 20 (PBST). Purified rabbit monoclonal antibodies diluted in PBST were added to the wells and incubated for 30 min at room temperature. This was followed by washing 6 times with PBST and incubation with Protein-A HRP conjugate at a 1:2000 dilution for a further 30 min. Plates were washed six times in PBST and incubated with tetramethylbenzidine (TMB) substrate for a further

15 min. The reaction was stopped by the addition of 1N sulfuric acid and plates were read at 450 nm using an ELISA plate reader. ELISA with the mouse monoclonal antibodies was performed with supernatants from tissue culture run neat in the assay.

All of the antibodies bound to the recombinant P503S fragment, with the exception of the negative control SP2 supernatant. 20D4, JA1 and 1D12 bound strictly to peptide #2101 (SEQ ID NO: 504), which corresponds to amino acids 151-169 of SEQ ID NO: 114. 1C3 bound to peptide #2102 (SEQ ID NO: 505), which corresponds to amino acids 165-184 of SEQ ID NO: 114. 9C12 bound to peptide #2099 (SEQ ID NO: 522), which corresponds to amino acids 120-139 of SEQ ID NO: 114. The other antibodies bind to regions that were not examined in these studies.

Subsequent to epitope mapping, the antibodies were tested by FACS analysis on a cell line that stably expressed P503S to confirm that the antibodies bind to cell surface epitopes. Cells stably transfected with a control plasmid were employed as a negative control. Cells were stained live with no fixative. 0.5 ug of anti-P503S monoclonal antibody was added and cells were incubated on ice for 30 min before being washed twice and incubated with a FITC-labelled goat anti-rabbit or mouse secondary antibody for 20 min. After being washed twice, cells were analyzed with an Excalibur fluorescent activated cell sorter. The monoclonal antibodies 1C3, 1D12, 9C12, 20D4 and JA1, but not 8D3, were found to bind to a cell surface epitope of P503S.

In order to determine which tissues express P503S, immunohistochemical analysis was performed, essentially as described above, on a panel of normal tissues (prostate, adrenal, breast, cervix, colon, duodenum, gall bladder, ileum, kidney, ovary, pancreas, parotid gland, skeletal muscle, spleen and testis). HRP-labeled anti-mouse or anti-rabbit antibody followed by incubation with TMB was used to visualize P503S immunoreactivity. P503S was found to be highly expressed in prostate tissue, with lower levels of expression being observed in cervix, colon, ileum and kidney, and no expression being observed in adrenal, breast, duodenum, gall bladder, ovary, pancreas, parotid gland, skeletal muscle, spleen and testis.

Western blot analysis was used to characterize anti-P503S monoclonal antibody specificity. SDS-PAGE was performed on recombinant (rec) P503S expressed in and purified from bacteria and on lysates from HEK293 cells transfected with full length P503S. Protein was transferred to nitrocellulose and then Western blotted with each of the anti-P503S monoclonal antibodies (20D4, JA1, 1D12, 6D12 and 9C12) at an antibody concentration of 1 ug/ml. Protein was detected using horse radish peroxidase (HRP) conjugated to either a goat anti-mouse monoclonal antibody or to protein A-sepharose. The monoclonal antibody 20D4 detected the

appropriate molecular weight 14 kDa recombinant P503S (amino acids 113-241) and the 23.5 kDa species in the HEK293 cell lysates transfected with full length P503S. Other anti-P503S monoclonal antibodies displayed similar specificity by Western blot.

5 **c) Preparation and Characterization of Antibodies against P703P**

Rabbits were immunized with either a truncated (P703Ptr1; SEQ ID NO: 172) or full-length mature form (P703Pfl; SEQ ID NO: 523) of recombinant P703P protein was expressed in and purified from bacteria as described above. Affinity purified polyclonal antibody was generated using immunogen P703Pfl or P703Ptr1 attached to a solid support. Rabbit monoclonal
10 antibodies were isolated using SLAM technology at Immgenics Pharmaceuticals. Table VII below lists both the polyclonal and monoclonal antibodies that were generated against P703P.

Table VII

Antibody	Immunogen	Species/type
Aff. Purif. P703P (truncated); #2594	P703Ptr1	Rabbit polyclonal
Aff. Purif. P703P (full length); #9245	P703Pfl	Rabbit polyclonal
2D4	P703Ptr1	Rabbit monoclonal
8H2	P703Ptr1	Rabbit monoclonal
7H8	P703Ptr1	Rabbit monoclonal

15

The DNA sequences encoding the complementarity determining regions (CDRs) for the rabbit monoclonal antibodies 8H2, 7H8 and 2D4 were determined and are provided in SEQ ID NO: 506-508, respectively.

Epitope mapping studies were performed as described above. Monoclonal
20 antibodies 2D4 and 7H8 were found to specifically bind to the peptides of SEQ ID NO: 509 (corresponding to amino acids 145-159 of SEQ ID NO: 172) and SEQ ID NO: 510 (corresponding to amino acids 11-25 of SEQ ID NO: 172), respectively. The polyclonal antibody 2594 was found to bind to the peptides of SEQ ID NO: 511-514, with the polyclonal antibody 9427 binding to the peptides of SEQ ID NO: 515-517.

25 The specificity of the anti-P703P antibodies was determined by Western blot analysis as follows. SDS-PAGE was performed on (1) bacterially expressed recombinant antigen; (2) lysates of HEK293 cells and Ltk-/- cells either untransfected or transfected with a plasmid

expressing full length P703P; and (3) supernatant isolated from these cell cultures. Protein was transferred to nitrocellulose and then Western blotted using the anti-P703P polyclonal antibody #2594 at an antibody concentration of 1 ug/ml. Protein was detected using horse radish peroxidase (HRP) conjugated to an anti-rabbit antibody. A 35 kDa immunoreactive band could be observed with recombinant P703P. Recombinant P703P runs at a slightly higher molecular weight since it is epitope tagged. In lysates and supernatants from cells transfected with full length P703P, a 30 kDa band corresponding to P703P was observed. To assure specificity, lysates from HEK293 cells stably transfected with a control plasmid were also tested and were negative for P703P expression. Other anti-P703P antibodies showed similar results.

Immunohistochemical studies were performed as described above, using anti-P703P monoclonal antibody. P703P was found to be expressed at high levels in normal prostate and prostate tumor tissue but was not detectable in all other tissues tested (breast tumor, lung tumor and normal kidney).

EXAMPLE 19

CHARACTERIZATION OF CELL SURFACE EXPRESSION AND CHROMOSOME LOCALIZATION OF THE PROSTATE-SPECIFIC ANTIGEN P501S

This example describes studies demonstrating that the prostate-specific antigen P501S is expressed on the surface of cells, together with studies to determine the probable chromosomal location of P501S.

The protein P501S (SEQ ID NO: 113) is predicted to have 11 transmembrane domains. Based on the discovery that the epitope recognized by the anti-P501S monoclonal antibody 10E3-G4-D3 (described above in Example 17) is intracellular, it was predicted that following transmembrane determinants would allow the prediction of extracellular domains of P501S. Fig. 9 is a schematic representation of the P501S protein showing the predicted location of the transmembrane domains and the intracellular epitope described in Example 17. Underlined sequence represents the predicted transmembrane domains, bold sequence represents the predicted extracellular domains, and italicized sequence represents the predicted intracellular domains. Sequence that is both bold and underlined represents sequence employed to generate polyclonal rabbit serum. The location of the transmembrane domains was predicted using HHMTOP as

described by Tusnady and Simon (Principles Governing Amino Acid Composition of Integral Membrane Proteins: Applications to Topology Prediction, *J. Mol. Biol.* 283:489-506, 1998).

Based on Fig. 9, the P501S domain flanked by the transmembrane domains corresponding to amino acids 274-295 and 323-342 is predicted to be extracellular. The peptide of SEQ ID NO: 518 corresponds to amino acids 306-320 of P501S and lies in the predicted extracellular domain. The peptide of SEQ ID NO: 519, which is identical to the peptide of SEQ ID NO: 518 with the exception of the substitution of the histidine with an asparagine, was synthesized as described above. A Cys-Gly was added to the C-terminus of the peptide to facilitate conjugation to the carrier protein. Cleavage of the peptide from the solid support was carried out using the following cleavage mixture: trifluoroacetic acid:ethanediol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for two hours, the peptide was precipitated in cold ether. The peptide pellet was then dissolved in 10% v/v acetic acid and lyophilized prior to purification by C18 reverse phase hplc. A gradient of 5-60% acetonitrile (containing 0.05% TFA) in water (containing 0.05% TFA) was used to elute the peptide. The purity of the peptide was verified by hplc and mass spectrometry, and was determined to be >95%. The purified peptide was used to generate rabbit polyclonal antisera as described above.

Surface expression of P501S was examined by FACS analysis. Cells were stained with the polyclonal anti-P501S peptide serum at 10 µg/ml, washed, incubated with a secondary FITC-conjugated goat anti-rabbit Ig antibody (ICN), washed and analyzed for FITC fluorescence using an Excalibur fluorescence activated cell sorter. For FACS analysis of transduced cells, B-LCL were retrovirally transduced with P501S. To demonstrate specificity in these assays, B-LCL transduced with an irrelevant antigen (P703P) or nontransduced were stained in parallel. For FACS analysis of prostate tumor cell lines, Lncap, PC-3 and DU-145 were utilized. Prostate tumor cell lines were dissociated from tissue culture plates using cell dissociation medium and stained as above. All samples were treated with propidium iodide (PI) prior to FACS analysis, and data was obtained from PI-excluding (i.e. intact and non-permeabilized) cells. The rabbit polyclonal serum generated against the peptide of SEQ ID NO: 519 was shown to specifically recognize the surface of cells transduced to express P501S, demonstrating that the epitope recognized by the polyclonal serum is extracellular.

To determine biochemically if P501S is expressed on the cell surface, peripheral membranes from Lncap cells were isolated and subjected to Western blot analysis. Specifically, Lncap cells were lysed using a dounce homogenizer in 5 ml of homogenization buffer (250 mM

sucrose, 10 mM HEPES, 1mM EDTA, pH 8.0, 1 complete protease inhibitor tablet (Boehringer Mannheim)). Lysate samples were spun at 1000 g for 5 min at 4 °C. The supernatant was then spun at 8000g for 10 min at 4 °C. Supernatant from the 8000g spin was recovered and subjected to a 100,000g spin for 30 min at 4 °C to recover peripheral membrane. Samples were then separated by SDS-PAGE and Western blotted with the mouse monoclonal antibody 10E3-G4-D3 (described above in Example 17) using conditions described above. Recombinant purified P501S, as well as HEK293 cells transfected with and over-expressing P501S were included as positive controls for P501S detection. LCL cell lysate was included as a negative control. P501S could be detected in Lncap total cell lysate, the 8000g (internal membrane) fraction and also in the 100,000g (plasma membrane) fraction. These results indicate that P501S is expressed at, and localizes to, the peripheral membrane.

To demonstrate that the rabbit polyclonal antiserum generated to the peptide of SEQ ID NO: 519 specifically recognizes this peptide as well as the corresponding native peptide of SEQ ID NO: 518, ELISA analyses were performed. For these analyses, flat-bottomed 96 well microtiter plates were coated with either the peptide of SEQ ID NO: 519, the longer peptide of SEQ ID NO: 520 that spans the entire predicted extracellular domain, the peptide of SEQ ID NO: 521 which represents the epitope recognized by the P501S-specific antibody 10E3-G4-D3, or a P501S fragment (corresponding to amino acids 355-526 of SEQ ID NO: 113) that does not include the immunizing peptide sequence, at 1 µg/ml for 2 hours at 37 °C. Wells were aspirated, blocked with phosphate buffered saline containing 1% (w/v) BSA for 2 hours at room temperature and subsequently washed in PBS containing 0.1% Tween 20 (PBST). Purified anti-P501S polyclonal rabbit serum was added at 2 fold dilutions (1000 ng - 125 ng) in PBST and incubated for 30 min at room temperature. This was followed by washing 6 times with PBST and incubating with HRP-conjugated goat anti-rabbit IgG (H+L) Affinipure F(ab') fragment at 1:20000 for 30 min. Plates were then washed and incubated for 15 min in tetramethyl benzidine. Reactions were stopped by the addition of 1N sulfuric acid and plates were read at 450 nm using an ELISA plate reader. As shown in Fig. 11, the anti-P501S polyclonal rabbit serum specifically recognized the peptide of SEQ ID NO: 519 used in the immunization as well as the longer peptide of SEQ ID NO: 520, but did not recognize the irrelevant P501S-derived peptides and fragments.

In further studies, rabbits were immunized with peptides derived from the P501S sequence and predicted to be either extracellular or intracellular, as shown in Fig. 9. Polyclonal rabbit sera were isolated and polyclonal antibodies in the serum were purified, as described above.

To determine specific reactivity with P501S, FACS analysis was employed, utilizing either B-LCL transduced with P501S or the irrelevant antigen P703P, of B-LCL infected with vaccinia virus-expressing P501S. For surface expression, dead and non-intact cells were excluded from the analysis as described above. For intracellular staining, cells were fixed and permeabilized as described above. Rabbit polyclonal serum generated against the peptide of SEQ ID NO: 548, which corresponds to amino acids 181-198 of P501S, was found to recognize a surface epitope of P501S. Rabbit polyclonal serum generated against the peptide SEQ ID NO: 551, which corresponds to amino acids 543-553 of P501S, was found to recognize an epitope that was either potentially extracellular or intracellular since in different experiments intact or permeabilized cells were recognized by the polyclonal sera. Based on similar deductive reasoning, the sequences of SEQ ID NO: 541-547, 549 and 550, which correspond to amino acids 109-122, 539-553, 509-520, 37-54, 342-359, 295-323, 217-274, 143-160 and 75-88, respectively, of P501S, can be considered to be potential surface epitopes of P501S recognized by antibodies.

The chromosomal location of P501S was determined using the GeneBridge 4 Radiation Hybrid panel (Research Genetics). The PCR primers of SEQ ID NO: 528 and 529 were employed in PCR with DNA pools from the hybrid panel according to the manufacturer's directions. After 38 cycles of amplification, the reaction products were separated on a 1.2% agarose gel, and the results were analyzed through the Whitehead Institute/MIT Center for Genome Research web server (<http://www-genome.wi.mit.edu/cgi-bin/contig/rhmapper.pl>) to determine the probable chromosomal location. Using this approach, P501S was mapped to the long arm of chromosome 1 at WI-9641 between q32 and q42. This region of chromosome 1 has been linked to prostate cancer susceptibility in hereditary prostate cancer (Smith *et al. Science* 274:1371-1374, 1996 and Berthon *et al. Am. J. Hum. Genet.* 62:1416-1424, 1998). These results suggest that P501S may play a role in prostate cancer malignancy.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate-specific protein, or a variant thereof, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NO: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530, 531, 533, 535 and 536;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID No: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339, 383, 477-483, 496, 504, 505, 519, 520, 522, 525, 527, 532, 534 and 537-550.

4. An isolated polynucleotide encoding at least 15 contiguous amino acid residues of a prostate-specific protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the protein
5 comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NO: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413,
10 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate-specific protein, or a
15 variant thereof, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NO: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396,
20 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one
25 of SEQ ID NO: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530,
30 531, 533, 535 and 536.

7. An isolated polynucleotide comprising a sequence that hybridizes under moderately stringent conditions to a sequence recited in any one of SEQ ID NO: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530, 531, 533, 535 and 536.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-8.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate-specific protein, the protein comprising an amino acid sequence encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471, 472-476, 524, 526, 530, 531, 533, 535 and 536 or a complement of any of the foregoing polynucleotide sequences.

12. A monoclonal antibody that specifically binds to an amino acid sequence selected from the group consisting of SEQ ID NO: 496, 504, 505, 509-517, 519, 520, 522 and 539-551.

5 13. A monoclonal antibody comprising a complementarity determining region selected from the group consisting of SEQ ID NO: 502, 503 and 506-508.

14. A fusion protein comprising at least one polypeptide according to
10 claim 1.

15 15. A fusion protein according to claim 14, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

16 16. A fusion protein according to claim 14, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

17. A fusion protein according to claim 14, wherein the fusion protein
20 comprises an affinity tag.

18. An isolated polynucleotide encoding a fusion protein according to claim 14.

25 19.. A pharmaceutical composition comprising a physiologically acceptable carrier and at least one component selected from the group consisting of:

- (a) a polypeptide according to claim 1;
- (b) a polynucleotide according to claim 4;
- (c) an antibody according to any one of claims 11-13;
- 30 (d) a fusion protein according to claim 14; and

(e) a polynucleotide according to claim 18.

20. A vaccine comprising an immunostimulant and at least one component selected from the group consisting of:

- 5 (a) a polypeptide according to claim 1;
(b) a polynucleotide according to claim 4;
(c) an antibody according to any one of claims 11-13;
(d) a fusion protein according to claim 14; and
(e) a polynucleotide according to claim 18.

10

21. A vaccine according to claim 20, wherein the immunostimulant is an adjuvant.

22. A vaccine according to claim 20, wherein the immunostimulant
15 induces a predominantly Type I response.

23. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 19.

20

24. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 20.

25. A pharmaceutical composition comprising an antigen-presenting cell
25 that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

26. A pharmaceutical composition according to claim 25, wherein the antigen presenting cell is a dendritic cell or a macrophage.

27. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with an immunostimulant.

5 28. A vaccine according to claim 27, wherein the immunostimulant is an adjuvant.

29. A vaccine according to claim 27, wherein the immunostimulant induces a predominantly Type I response.

10

30. A vaccine according to claim 27, wherein the antigen-presenting cell is a dendritic cell.

31. A method for inhibiting the development of a cancer in a patient,
15 comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide encoded by a polynucleotide recited in any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536, and thereby inhibiting the development of a cancer in the patient.

20

32. A method according to claim 31, wherein the antigen-presenting cell is a dendritic cell.

33. A method according to any one of claims 23, 24 and 31, wherein the
25 cancer is prostate cancer.

34. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate-specific protein, wherein the protein comprises an amino acid sequence that is
30 encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536; and

(ii) complements of the foregoing polynucleotides;

5 wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate-specific protein from the sample.

35. A method according to claim 34, wherein the biological sample is
10 blood or a fraction thereof.

36. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

15

37. A method for stimulating and/or expanding T cells specific for a prostate-specific protein, comprising contacting T cells with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- 20 (ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); and
- (iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii),
- 25 under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

38. An isolated T cell population, comprising T cells prepared according to the method of claim 37.

30

39. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 38.

5 40. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- 10 (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- 15 (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

(b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

20

41. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- 25 (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536;
- 30 (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or

(iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

(b) cloning at least one proliferated cell to provide cloned T cells; and

5 (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

42. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

10 (a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate-specific protein, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NO: 1-111,
15 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

20 (c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

43. A method according to claim 42, wherein the binding agent is an antibody.

25

44. A method according to claim 43, wherein the antibody is a monoclonal antibody.

45. A method according to claim 42, wherein the cancer is prostate
30 cancer.

46. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

- 5 (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate-specific protein, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence of any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing polynucleotides;
- 10 (b) detecting in the sample an amount of polypeptide that binds to the binding agent;
- (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and
- (d) comparing the amount of polypeptide detected in step (c) to the
15 amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

47. A method according to claim 46, wherein the binding agent is an antibody.

20

48. A method according to claim 47, wherein the antibody is a monoclonal antibody.

49. A method according to claim 46, wherein the cancer is a prostate
25 cancer.

50. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

- 30 (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate-specific protein,

wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence of any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing polynucleotides;

5 (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

10

51. A method according to claim 50, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

15

52. A method according to claim 50, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

53. A method for monitoring the progression of a cancer in a patient,
20 comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate-specific protein, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence of any one of SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315,
25 326, 328, 330, 332-335, 340-375, 381, 382 and 384-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from
30 the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

5 54. A method according to claim 53, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

10 55. A method according to claim 53, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

15 56. A diagnostic kit, comprising:
 (a) one or more antibodies according to claim 11; and
 (b) a detection reagent comprising a reporter group.

 57. A kit according to claim 56, wherein the antibodies are immobilized on a solid support.

20 58. A kit according to claim 56, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

25 59. A kit according to claim 56, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

30 60. An oligonucleotide comprising 10 to 40 contiguous nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate-specific protein, wherein the protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NO: 2, 3, 8-29, 41-45,

47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 5 452, 453, 459-461, 468-476, 524, 526, 530, 531, 533, 535 and 536, or a complement of any of the foregoing polynucleotides.

61. A oligonucleotide according to claim 60, wherein the oligonucleotide comprises 10-40 contiguous nucleotides recited in any one of SEQ ID NO:
10 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-476, 524, 526, 530, 531, 533, 535 and 536.

15

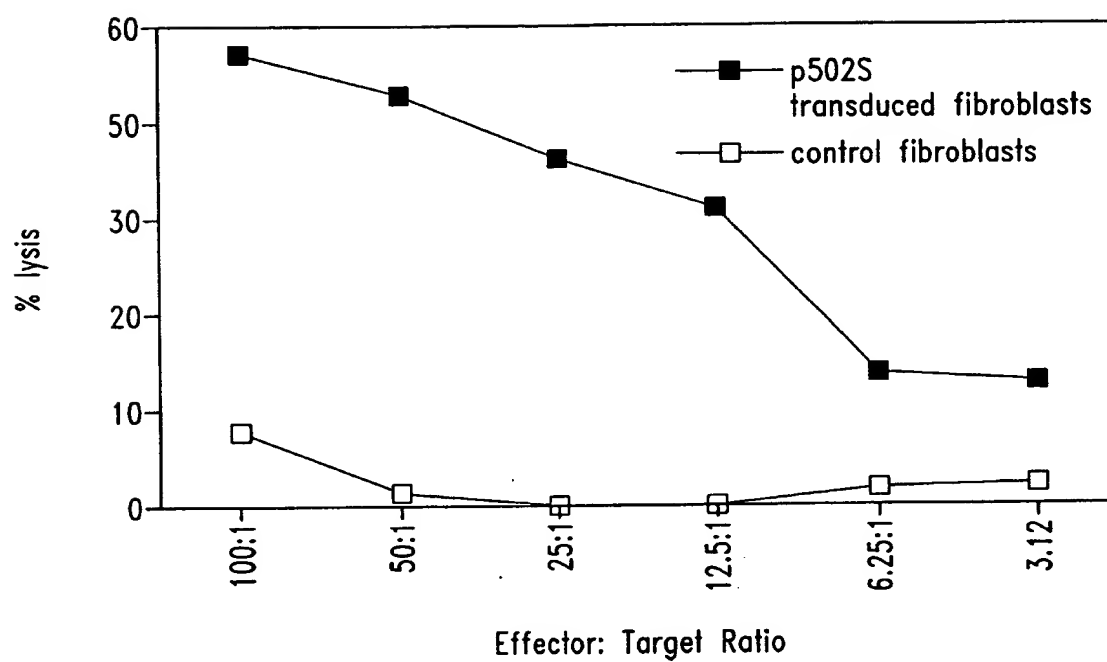
62. A diagnostic kit, comprising:

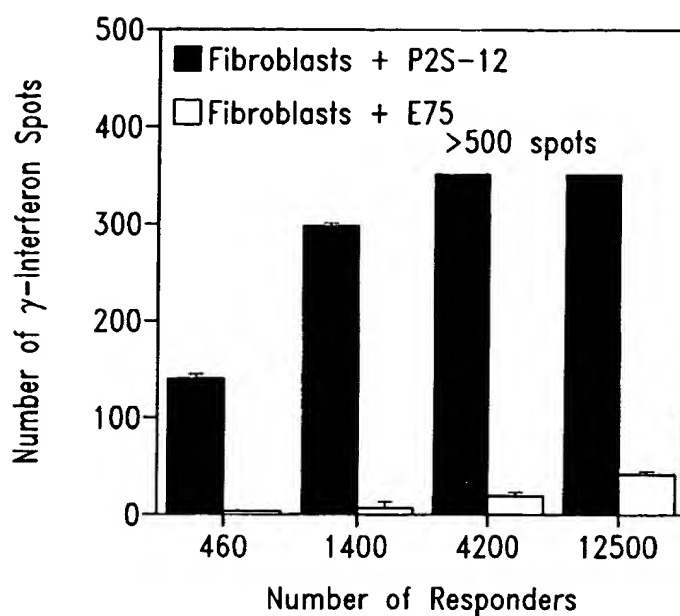
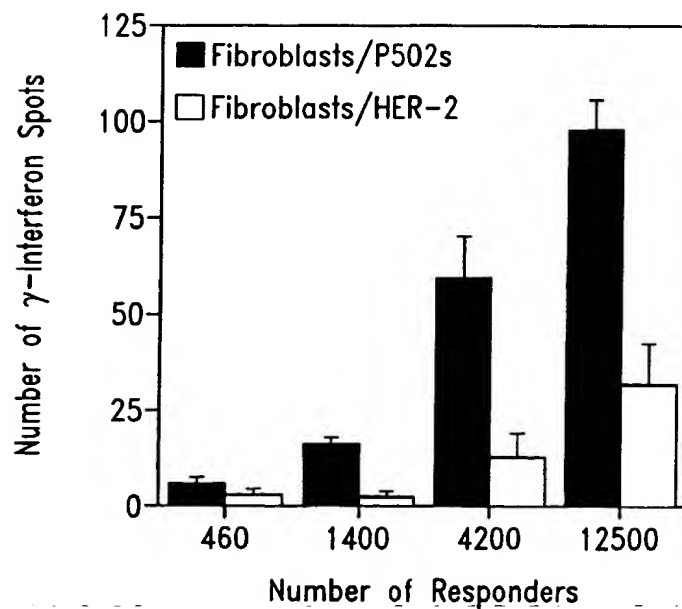
- (a) an oligonucleotide according to claim 61; and
- (b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

20

63. A host cell according to claim 10, wherein the cell is selected from the group consisting of: *E. coli*, baculovirus and mammalian cells.

64. A recombinant protein produced by a host cell according to claim
25 10.

*Fig. 1*

*Fig. 2A**Fig. 2B*

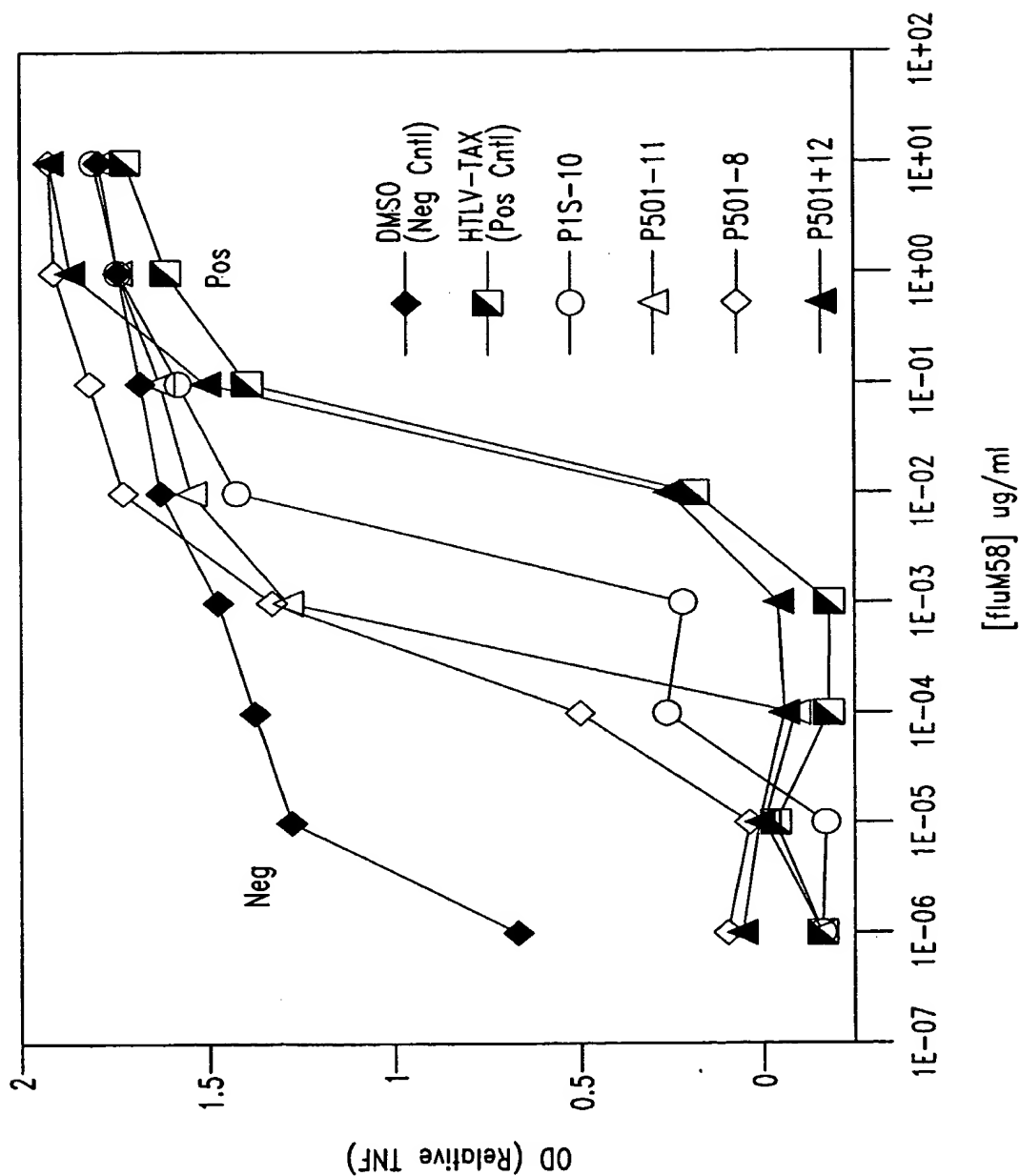
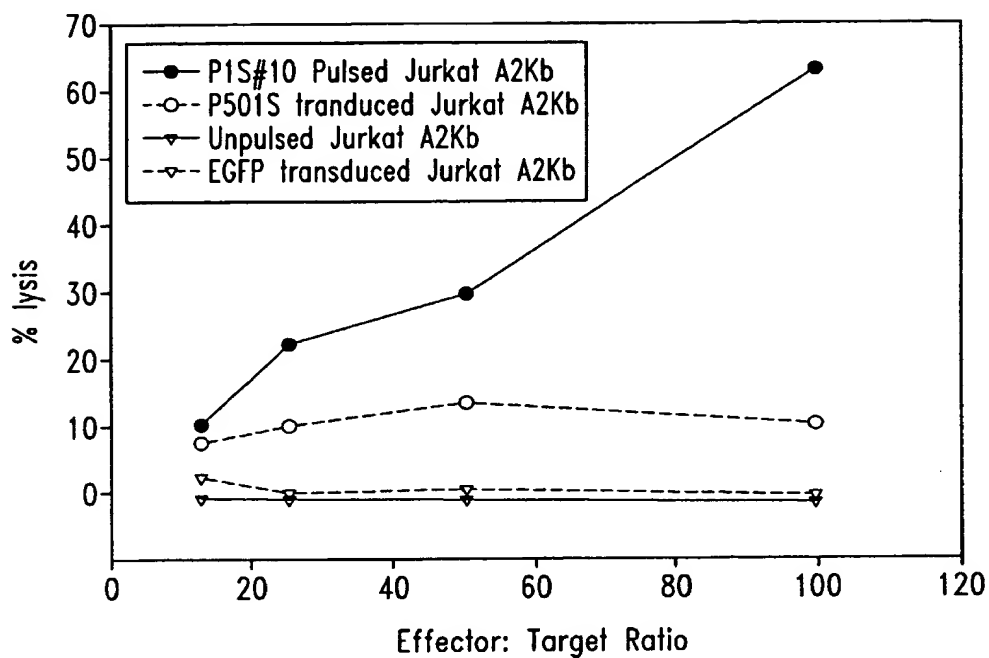
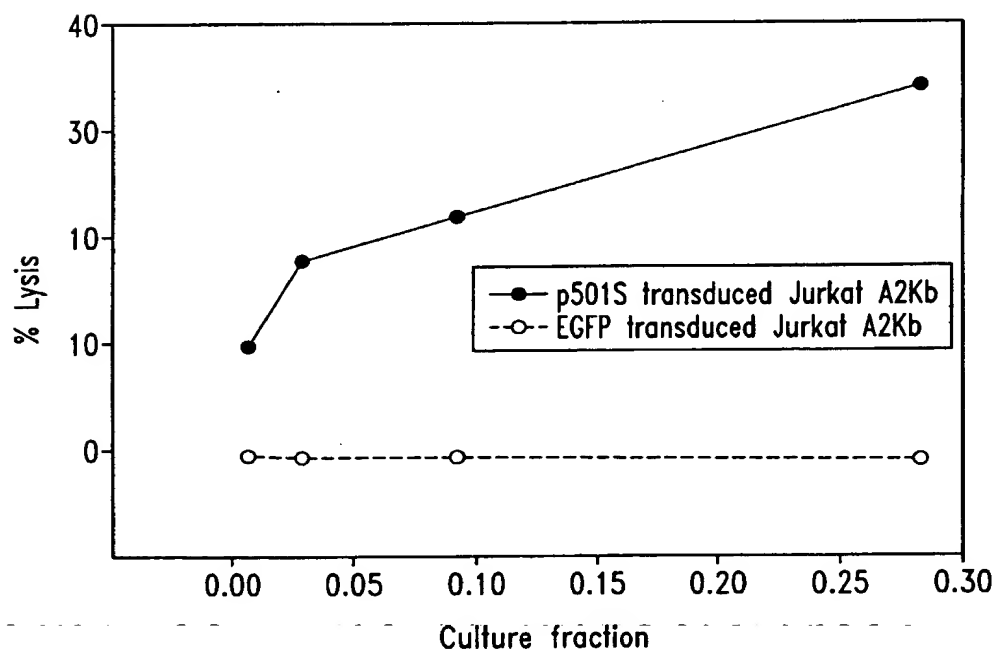
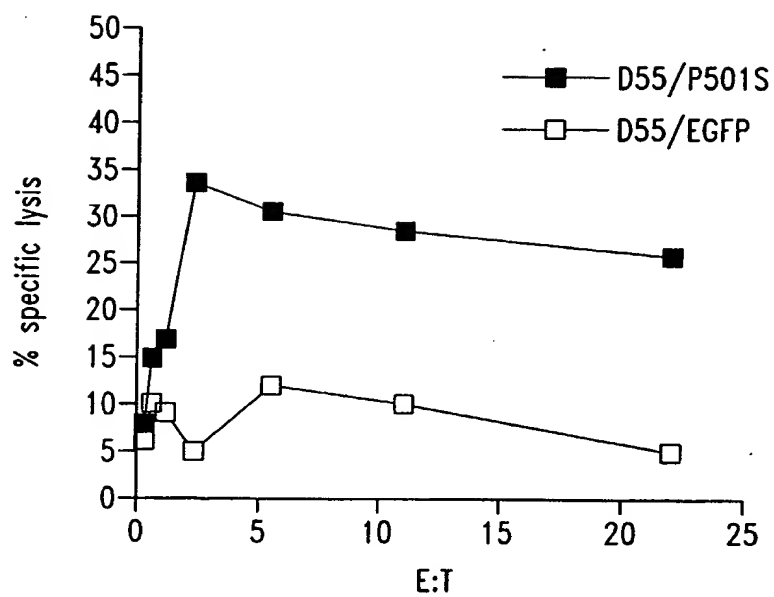
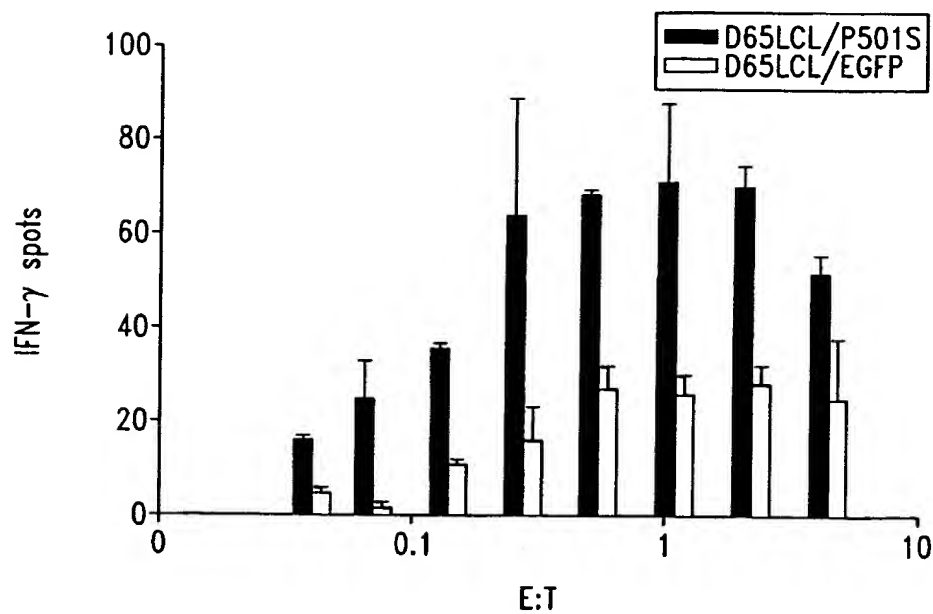
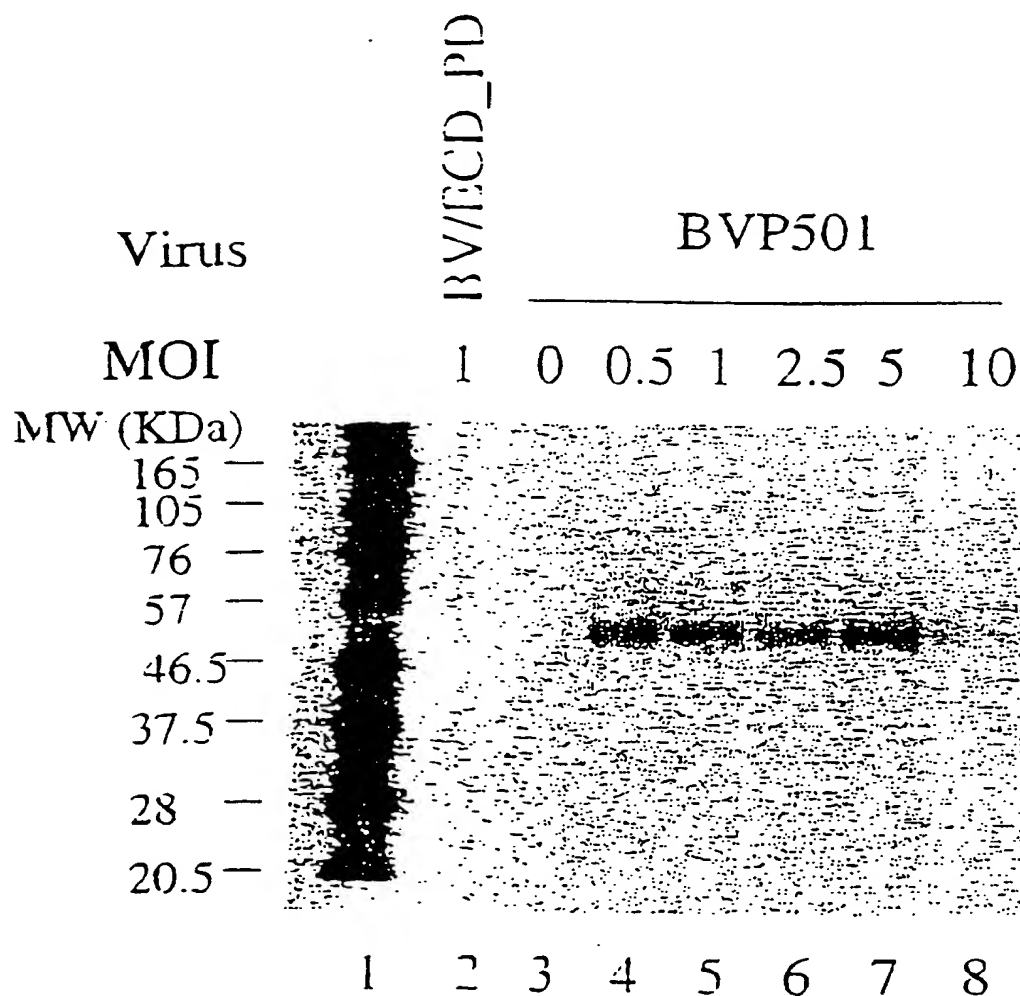


Fig. 3

*Fig. 4**Fig. 5*

*Fig. 6A**Fig. 6B*

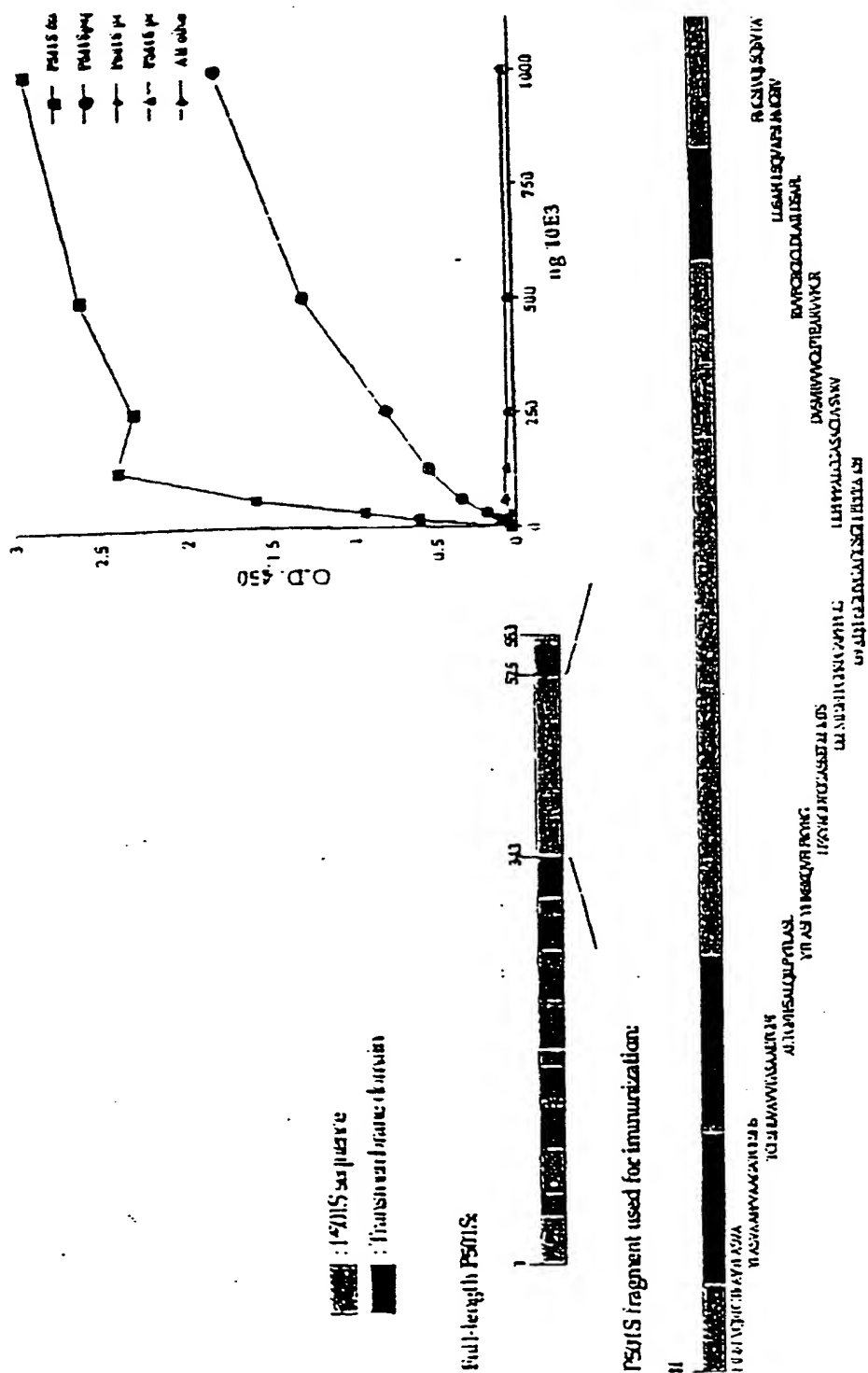
Expression of P501S by the Baculovirus Expression System



0.6 million high 5 cells in 8-well plate were infected with an unrelated control virus BV/ECD_PD (lane 1), without virus (lane 2), or with recombinant baculovirus for P501S at different MOIs (lane 3 - 8). Cell lysates were run on SDS-PAGE under the reducing conditions and analyzed by Western blot with a monoclonal antibody against P501S (P501S-10E3-G4D3). Lane 1 is the biotinylated protein molecular weight marker (BioLabs).

Fig. 7

Fig. 8



Schematic of P501S with predicted
transmembrane, cytoplasmic, and extracellular regions

MVQRLWVSRLLRHRK AQLLLVNLLTFGLEVCLAAGIT YVPPLLLEVGVEEKFM
TMVLGIGPVLGLVCYPLLGSAS

DHWRGRYGRRRP FIWALSLGILLSLFLIPRAGWL AGLLCPDPRPLE LALLILGVGLLDFCGQVCFTPL

EALLSDLFRDPDHCRQ AYSVYAFMISLGGCLGYLLPAI DWDTSALAPYLGTQEE

CLFGLLTILFTCVAATLLV AEEAALGPTEPAEGLSAPSLSPHCCPCRARLAFRNLGALLPRL

HQLCCRMPTLRR LFVAELCSWMALMTFTLFYTDF VGEGLYQGVPRAEPGTEARRHYDEGVR

MGSLGLFLQCAISLVFSLVM DRLVQRFGTRAVYLAS VAAFPVAAGATCLSHSVAVVTA SAA

LTGFTFSALQILPYTLASLY HREKQVFLPKYRGDTGGASSEDSLMTSFLPGPKPGAPFPNGHVGAGGSGL

LPPPPALCGASACDVSVRVVVGEPTEARVVPGRG ICLDLAILDSAFLLSQVAPSLF MGSIVQLSQS

VTAYMVSAAGLGLVAIYFAT QVVFDKSDLAKYSA

Underlined sequence: Predicted transmembrane domain; **Bold sequence**: Predicted extracellular domain; *Italic sequence*: Predicted intracellular domain. Sequence in bold/underlined: used generate polyclonal rabbit serum

Localization of domains predicted using HMMTOP (G.E. Tusnady and I. Simon (1998) Principles Governing Amino Acid Composition of Integral Membrane Proteins: Applications to topology Prediction. J. Mol Biol. 283, 489-506.

Fig. 9

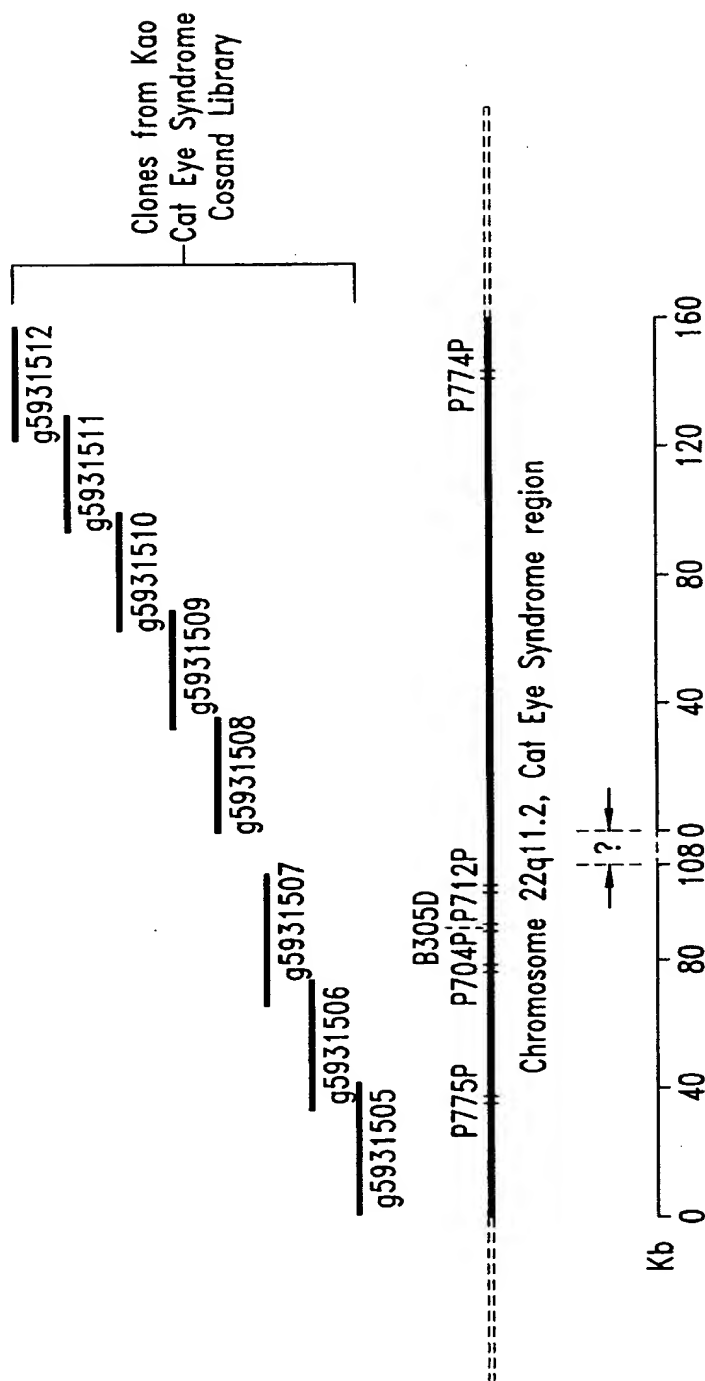


Fig. 10

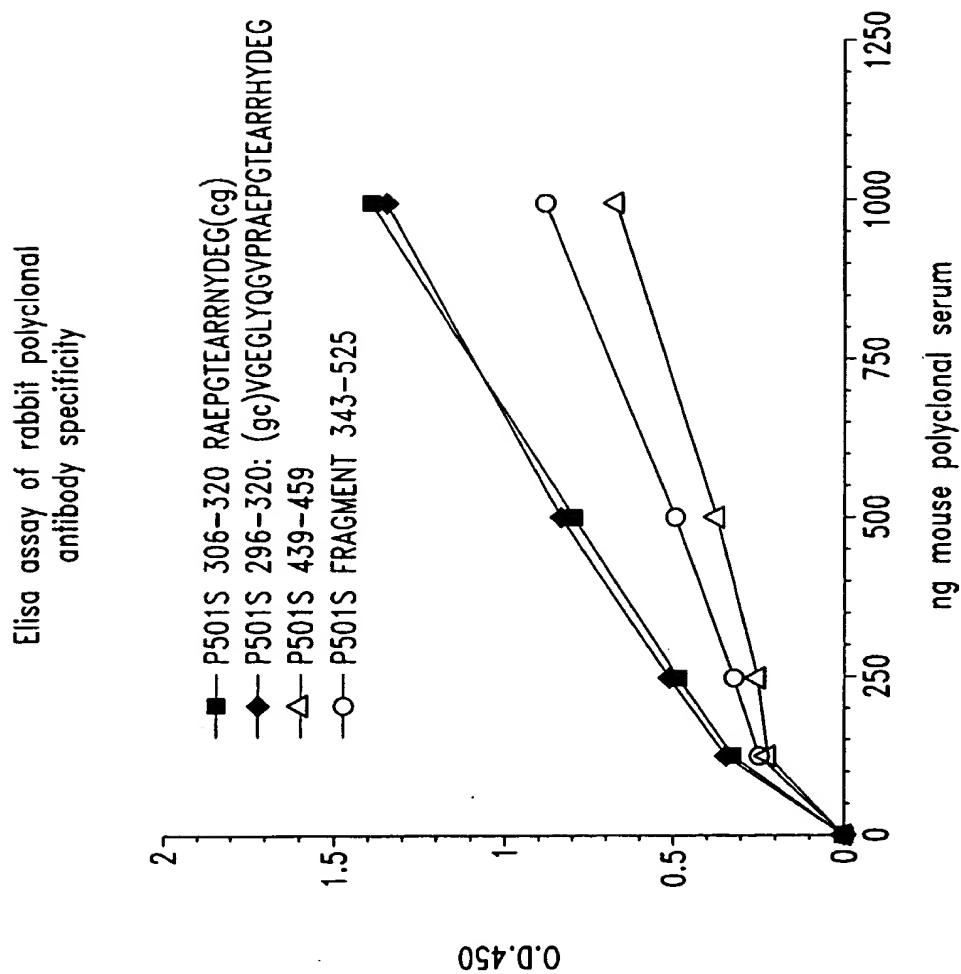


Fig. 11

SEQUENCE LISTING

<110> Corixa Corporation
 Xu, Jiangchun
 Dillon, Davin C.
 Mitcham, Jennifer L.
 Harlocker, Susan Louise
 Jiang Yuqui
 Reed, Steven G.
 Kalos, Michael
 Fanger, Gary
 Retter, Mark
 Solk, John
 Day, Craig
 Skeiky, Yasir A.W.
 Wang, Aijun

<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
 DIAGNOSIS OF PROSTATE CANCER

<130> 210121.42720PC

<140> PCT

<141> 2000-11-09

<160> 551

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(814)

<223> n = A,T,C or G

<400> 1

tttttttttt	tttttcacag	tataacagct	ctttatttct	gtgagttcta	ctaggaaatc	60
atcaaactctg	aggggttgtct	ggaggacttc	aatacacctc	cccccatagt	gaatcagctt	120
ccaggggggtc	cagtccctct	ccttacttca	tccccatccc	atgccaaagg	aagaccctcc	180
ctccttggtc	cacagccttc	tctaggtctc	ccagtgcctc	caggacagag	tgggttatgt	240
tttcagctcc	atccttgctg	tgagtgtctg	gtgcgttggtg	cctccagctt	ctgctcagtg	300
cttcatggac	agtgtccagc	acatgtcact	ctccactctc	tcagtgtgga	tccactagtt	360
ctagagcggc	cgccaccgcg	gtggagctcc	agcttttggt	cccttttagtg	agggttaatt	420
gcgcgcttgg	cgtaatcatg	gtcataactg	tttctgtgtg	gaaattgtta	tccgctcaca	480
attccacaca	acatacgagc	cggaagcata	aagtgtaaag	cctgggggtgc	ctaatgagtg	540
anctaactca	cattaattgc	gttgcgctca	ctgnccgctt	tccagtcngg	aaaactgtcg	600
tgccagctgc	attaatgaat	cggccaacgc	ncggggaaaa	gcggtttgcg	ttttgggggc	660
tcttccgctt	ctcgtcact	nantcctgcg	ctcggctcntt	cggctgcggg	gaacgggtatc	720
actcctcaaa	ggnggtatta	cggttatccn	naaatcnggg	gatacccnng	aaaaaanttt	780
aacaaaaggg	cancaaaggg	cngaaacgta	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 2

acagaaatgt	tggatggtgg	agcacctttc	tatacgactt	acaggacagc	agatggggaa	60
ttcatggctg	ttggagcaat	agaaccccag	ttctacgagc	tgctgatcaa	aggacttgga	120
ctaaagtctg	atgaacttcc	caatcagatg	agcatggatg	attggccaga	aatgaagaag	180
aagtttgcag	atgtatttgc	aaagaagacg	aaggcagagt	gggtgcaa	ctttgacggc	240
acagatgcct	gtgtgactcc	ggttctgact	tttgaggagg	ttgttcatca	tgatcacaac	300
aaggaacggg	gctcgtttat	caccagttag	gagcaggacg	tgagcccccg	ccctgcacct	360
ctgctgttaa	acaccccagc	catcccttct	ttcaaaaggg	atccactagt	tctagaagcg	420
gccgccaccg	cggtggagct	ccagcttttg	ttcccttttag	tgagggttaa	ttgcgcgctt	480
ggcgtaatca	tggtcatagc	tgtttctctg	gtgaaattgt	tatccgctca	caattccccc	540
aacatacgag	ccggaacata	aagtgttaag	cctgggggtgc	ctaataantg	agctaactcn	600
cattaattgc	gttgcgctca	ctgcccgtt	tccagtcggg	aaaactgtcg	tgccactgen	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggcctct	tccgctttcc	720
tcgctcattg	atcctngcnc	ccggtcttcg	gctgcggnga	acggttcact	cctcaaaggc	780
ggtntnccgg	ttatccccaa	acnggggata	ccnnga			816

<210> 3

<211> 773

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(773)

<223> n = A,T,C or G

<400> 3

cttttgaaag	aagggatggc	tgggggtgtt	aacagcagag	gtgcagggcg	ggggctcacg	60
tcctgctcct	cactgggtgat	aaacgagccc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaag	tcagaaccgg	agtcacacag	gcatctgtgc	cgtaaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcaaacttct	tcttcatttc	tggccaatca	240
tccatgctca	tctgattggg	aagttcatca	gacttttagt	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgctccaaca	gccatgaatt	ccccatctgc	tgctctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgttctgtc	ctcgaggggg	ggcccgggtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgctcgt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgagcacat	ccccctttcg	540
ccagctgggc	gtaatanaga	aaaggcccg	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgttaccg	cgcattnaac	ccccgcnggg	tttngttgtt	660
acccccacnt	nnaccgctta	cactttgcca	gcgccttanc	gcccgtctcc	tttcnccttt	720
cttcccttcc	tttcncncn	ctttccccc	gggtttcccc	cntcaaacc	cna	773

<210> 4

<211> 828

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(828)

<223> n = A,T,C or G

<400> 4

cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatggt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaaag	180
acgtgggtga	ccatgttggt	tgtgggggtgc	agagatggga	gggggtggggc	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcata	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgtgtcctc	360
gngggcaactg	ggaagcctan	atnaggccgt	gagcanaaaag	aaggggagga	tccactagt	420
ctanagcggc	cgccaccgcg	gtgganctcc	ancttttgtt	cccttttagtg	aggggttaatt	480
gcgcgcttgg	cntaatcatg	gtcatanctn	tttctgtgtg	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaaacata	aantgtaaac	ctgggggtgcc	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgctcact	gcccgccttc	caatcnggaa	acctgtcctg	660
ccncttgcat	tnatgaatcn	gccaaacccc	ggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttctc	cnetcantta	ntccctncnc	tcggtcattc	cggctgengc	aaaccggttc	780
accnctcca	aaggggggtat	tccggtttcc	ccnaatccgg	gganancc		828

<210> 5

<211> 834

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (834)

<223> n = A,T,C or G

<400> 5

tttttttttt	tttttactga	tagatggaat	ttattaagct	tttcacatgt	gatagcacat	60
agtttttaatt	gcataccaaag	tactaacaaa	aactctagca	atcaagaatg	gcagcatggt	120
attttataac	aatcaacacc	tgtggctttt	aaaatttggg	tttcataaga	taattttatac	180
tgaagtaaat	ctagccatgc	ttttaaaaaa	tgcttttaggt	cactccaagc	ttggcagttta	240
acatttgga	taaacaataa	taaaacaatc	acaattttaat	aaataacaaa	tacaacattg	300
taggccataa	tcatatacag	tataaggaaa	aggtggtagt	gttgagtaag	cagttatttag	360
aatagaatac	cttggcctct	atgcaaatat	gtctagacac	tttgattcac	tcagccctga	420
cattcagttt	tcaaagtagg	agacagggtc	tacagtatca	ttttacagtt	tccaacacat	480
tgaaaacaag	tagaaaatga	tgagttgatt	tttattaatg	cattacatcc	tcaagagtta	540
tcaccaaccc	ctcagttata	aaaaattttc	aagttatatt	agtcataata	cttggtgtgc	600
ttatttttaa	ttagtgtctaa	atggattaag	tgaagacaac	aatggtcccc	taatgtgatt	660
gatatttggtc	atttttacca	gcttctaaat	ctnaactttc	aggcttttga	actggaacat	720
tgnatnacag	tgttccanag	ttncaaccta	ctggaacatt	acagtgtgct	tgattcaaaa	780
tgttattttg	ttaaaaatta	aatttttaacc	tggtggaaaa	ataatttgaa	atna	834

<210> 6

<211> 818

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (818)

<223> n = A,T,C or G

<400> 6

tttttttttt	tttttttttt	aagaccctca	tcaatagatg	gagacataca	gaaatagtca	60
aaccacatct	acaaaatgcc	agtatcaggc	ggcggcttcg	aagccaaagt	gatgtttgga	120
tgtaaagtga	aatattagtt	ggcggatgaa	gcagatagtg	aggaaaagtg	agccaataat	180
gacgtgaagt	ccgtggaagc	ctgtggctac	aaaaaatgtt	gagccgtaga	tgcgcgcgga	240
aatgggtgaag	ggagactcga	agtactctga	ggcttgtagg	agggtaaaat	agagaccag	300

taaaattgta	ataagcagtg	cttgaattat	ttggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaatacg	gatgtgttta	ggagtgggac	420
ttctagggga	tttagcgggg	tgatgcctgt	tggggggccag	tgccctccta	gttgggggggt	480
aggggctagg	ctggagtggt	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaacttctga	540
ggtaataaat	aggattatcc	cgtatcgaag	gccttttttg	acagggtggtg	tgtggtggcc	600
ttggtatgtg	ctttctcgtg	ttacatcgcg	ccatcattgg	tatatggtta	gtgtgttggg	660
ttantanggc	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccggaa	720
gtcattanga	nggctnaaaa	ggccctgtta	ngggtctggg	ctnggtttta	cccnacccat	780
ggaatncncc	ccccggacna	ntgnatccct	attcttaa			818

<210> 7

<211> 817

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(817)

<223> n = A,T,C or G

<400> 7

tttttttttt	tttttttttt	tggtctctaga	gggggtagag	gggggtgctat	agggtaaata	60
cgggccctat	ttcaaagatt	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggtcgt	gtagcgggtga	180
aagtggtttg	gttttagacgt	ccgggaattg	catctgtttt	taagcctaata	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggg	gttctcctag	gttcaatacc	420
attggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggatnccct	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgttaat	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggct	tacaggacta	gaaaccaaata	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtgnata	accnctccta	tnatcccacc	caatngnatt	ccccacnenn	720
acnattggat	nccccanttc	canaaanggc	cnccecccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcance			817

<210> 8

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(799)

<223> n = A,T,C or G

<400> 8

catttccggg	tttactttct	aaggaaagcc	gagcgggaagc	tgctaacgtg	ggaatcgggtg	60
cataaggaga	actttctgct	ggcagcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcaactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggccg	angectganc	cgctctgect	tgctgcccc	angtgggccc	ccaccccttg	300
acctgcctgg	gtccaaacac	tgagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcgccc	ccccacactg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtgtt	480
ctccttacaa	ccacannatg	cccggctcct	cccggaaacc	antcccancc	tgngaaggat	540
caagnccctgn	atccactnnt	nctanaaccg	gcncncnccg	cngtggaacc	cnccttntgt	600
tccttttctnt	tnaggggttaa	tnnccgcttg	gccttnccan	ngtccnncnc	nttttccnnt	660

gttnaaattg	ttangcnccc	neennteecn	cnnennnnan	cccgaccenn	annttnmann	720
ncctgggggt	ncennngat	tgaccenncc	ncctntant	tgcnttnggg	nncntgccc	780
ctttccctct	nggganncg					799

<210> 9
 <211> 801
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(801)
 <223> n = A,T,C or G

<400> 9						
acgccttgat	cctcccaggc	tgggactggg	tctgggagga	gccgggcatg	ctgtgggttg	60
taangatgac	actcccaaag	gtggtcctga	cagtggccca	gatggacatg	gggctcacct	120
caaggacaag	gccaccaggt	gcgggggccc	aagcccatat	gacccctact	ctatgagcaa	180
aatccctctg	gggggcttct	ccttgaagtc	cgccancagg	gctcagtctt	tggaccang	240
caggtcatgg	ggttgtngnc	caactggggg	ccncaacgca	aaanggcnc	gggcctcngn	300
caccatcccc	angacgcggc	tacactnctg	gacctccenc	tccaccactt	tcagcgctg	360
ttentacccg	cgatntgtgc	ccanctgttt	cngtgcenac	tccancttct	nggacgtgcg	420
ctacatacgc	cgggancnc	netcccgtt	tgctccctatc	cacgtncan	caacaaattt	480
cncntantg	caccnattcc	cacntttnc	agntttccnc	nncngcttc	cttntaaaag	540
ggttganccc	cggaaaatnc	cccaaagggg	gggggcccng	tacccaactn	ccccctnata	600
gctgaantcc	ccatnaccnn	gnctcnatgg	ancntcent	tttaannacn	ttctnaactt	660
gggaanance	ctcgncntn	ccccnttaa	tccnccttg	cnangnnent	ccccnntcc	720
ncennntng	gcntntnann	cnaaaaaggc	ccnnancaa	tctcctnnn	cctcanttcg	780
ccanccctcg	aaatcgccn	c				801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10						
cagtctatnt	ggccagtgtg	gcagctttcc	ctgtggctgc	cggtgccaca	tgctgtccc	60
acagtgtggc	cgtgggtgaca	gcttcagccg	ccctcacccg	gttcaccttc	tcagccctgc	120
agatcctgcc	ctacacactg	gcctccctct	accaccggga	gaagcaggtg	ttcctgccc	180
aataccgagg	ggacactgga	ggtgctagca	gtgaggacag	cctgatgacc	agcttcctgc	240
caggccctaa	gcctggagct	ccctcccta	atggacacgt	gggtgctgga	ggcagtggcc	300
tgctcccacc	tccaccgcg	ctctgcgggg	cctctgctgc	tgatgtctcc	gtacgtgtgg	360
tgggtgggtga	gcccaccgan	gccaggggtg	ttccggggcc	gggcacctgc	ctggacctcg	420
ccatcctgga	tagtgcttcc	tgctgtccca	ngtggcccca	tccctgttta	tgggtccat	480
tgctccagtc	agccagtctg	tactgccta	tatgggtgtc	gccgcaggcc	tgggtctggg	540
cccatttact	ttgtacaca	ggtantattt	gacaagaacg	anttgcccaa	atactcagcg	600
ttaaaaaatt	ccagcaacat	tgggggtgga	aggcctgcct	cactgggtcc	aactccccgc	660
tctgtttaac	cccatggggc	tgccggcttg	gccgccaatt	tctgttgctg	ccaaantnat	720
gtggctctct	gctgccacct	gttgctggct	gaagtgcnta	cngcncanct	nggggggtng	780
gnggttccc						789

<210> 11
 <211> 772

<212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11

cccaccctac	ccaaatatta	gacaccaaca	cagaaaagct	agcaatggat	tcccttctac	60
tttgttaaat	aaataagtta	aatattttaa	tgcctgtgtc	tctgtgatgg	caacagaagg	120
accaacaggc	cacatcctga	taaaaggtaa	gaggggggtg	gatcagcaaa	aagacagtgc	180
tgtgggctga	ggggacctgg	ttcttgtgtg	ttgcccctca	ggactcttcc	cctacaaaata	240
actttcatat	gttcaaatcc	catggaggag	tgtttcatcc	tagaaactcc	catgcaagag	300
ctacattaaa	cgaagctgca	ggttaagggg	cttanagatg	ggaaaccagg	tgactgagtt	360
tattcagctc	ccaaaaaccc	ttctctaggt	gtgtctcaac	taggaggcta	gctgttaacc	420
ctgagcctgg	gtaatccacc	tgcagagtcc	ccgcattcca	gtgcatggaa	cccttctggc	480
ctccctgtat	aagtccagac	tgaaaccccc	ttggaaggnc	tccagtcagg	cagccctana	540
aactggggaa	aaaagaaaag	gacgccccan	ccccagctg	tgcantacg	cacctcaaca	600
gcacagggtg	gcagcaaaaa	aaccacttta	ctttggcaca	aacaaaaact	ngggggggca	660
accccggcac	cccnangggg	gttaacagga	ancngggnaa	cntggaacct	aattnaggca	720
ggcccnccac	ccnnaatntt	gctgggaaat	ttttctctcc	ctaaattntt	tc	772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gccccattc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atccgtatag	ttgggtgaagc	cacagcactt	gagccctttc	240
atgggtgggt	tccacacttg	agtgaagtct	tccctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccatanca	gcccntgaaa	accaananca	aagaccacna	480
cnccggctgc	gatgaagaaa	tnaccccneg	ttgacaaact	tgcatggcac	tggganccac	540
agtggcccn	aaaatcttca	aaaaggatgc	cccatcnatt	gaccccccaa	atgcccactg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnatt	gnacaagatc	tncntgggtc	660
tnatnaacnt	gaaccctgcn	tngtggctcc	tgttcaggnc	cnnggcctga	cttctnaann	720
aangaactcn	gaagncccca	cngganannc	g			751

<210> 13
 <211> 729
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(729)
 <223> n = A,T,C or G

<400> 13

gagccaggcg	tccctctgcc	tgcccactca	gtggcaacac	ccgggagctg	ttttgtcctt	60
tgtggancct	cagcagtncc	ctctttcaga	actcantgcc	aagancctg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtggtg	cagccctggt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tccgggccaact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgtag	ccggcggtgt	ggtcttagct	ctaggtttcc	tgggctgcta	tgggtgctaag	360
actgagagca	agtgtgccct	cgtgacgttc	ttcttcatcc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgtgtgtgtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
tgtgtgtaat	gcctgccaatc	aanaaaagat	tatgggttcc	caggaanact	tcactcaagt	540
gttggaacac	caccatgaaa	gggctcaagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaanagtg	cctttccccc	atttctgttg	caattgacaa	660
acgtcccaaa	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtcc	ccaaccanaa	720
attnaaggg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (816)

<223> n = A,T,C or G

<400> 14

tgtcttctct	caaagttggt	cttgttgcca	taacaaccac	cataggtaaa	gcgggcgtag	60
tgttcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgacagag	tcctgtgtct	120
ggcagggtcca	cgcagtgcgc	tttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcggaactg	ggtgggctga	300
cangtgccag	agcacactgg	atggcgccct	tccatgnnan	gggcccctgng	ggaaagtccc	360
tganccccc	anctgcctct	caaangcccc	accttgacac	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaggttag	ttnttcttgt	tgcccaancc	anccccntaa	acaaactctt	480
gcanatctgc	tccngggggg	tentantacc	ancgtgggaa	aagaacccca	ggcngcgaa	540
caancttggt	tggatnccga	gnataatct	netnttctgc	ttggtggaca	gcaccantna	600
ctgtnnant	ttagnccntg	gtcctcntgg	gttgnncttg	aacctaatcn	ccnntcaact	660
gggacaagg	aantngccnt	cctttnaatt	cccnanctn	ccccctgggt	tgggggtttt	720
cncnctcta	ccccagaaan	nccgtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaacctn	ccccacccac	gggttcngnt	ggttng			816

<210> 15

<211> 783

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (783)

<223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	nacttgaagg	tacaacccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	ccagatttgg	cgcctactgc	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	ctgtggggac	tcaagggaang	cacctacctg	ttccagctga	180
cagtgcactg	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	ccaacaangt	gggtcgctgc	cggggctctt	300
tcccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360

```

gcttgggcaa caagaacaac taccttcggg aagaagagtg cattctance tgtcnggggtg 420
tgcaagggtg gcctttgana ngcanctctg gggctcangc gactttcccc cagggcccct 480
ccatggaaag gcgccatcca ntgttctctg gcacctgtca gcccaccag ttcgctgca 540
ncaatggctg ctgcatcnac antttcctng aattgtgaca acacccccca ntgcccccaa 600
ccctcccaac aaagcttccc tgttnaaaaa tacnccantt ggcttttnac aaacncccg 660
cncctccntt ttcccnntn aacaaagggc nctngcnttt gaactgcccn aaccnggaa 720
tctnccnngg aaaaantncc cccctgggtt cctnnaance cctccnnaa anctncccc 780
ccc 783

```

<210> 16

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 16

```

gccccaatc cagctgccac accaccacg gtgactgcat tagttcggat gtcatacaaa 60
agctgattga agcaaccctc tactttttgg tcgtgagcct tttgcttggt gcaggtttca 120
ttggtgtgtg tgggtgacgtt gtcattgcaa cagaatgggg gaaaggcact gttctctttg 180
aagtaggggtg agtcctcaaa atccgtatag ttggtgaagc cacagcactt gagccctttc 240
atgggtgggtg tccacacttg agtgaagtct tcctgggaac cataatcttt cttgatggca 300
ggcactacca gcaacgtcag gaagtgtca gccattgtgg tgtacaccaa ggcgaccaca 360
gcagctgcaa cctcagcaat gaagatgagg aggaggatga agaagaacgt cncgagggca 420
cacttgctct ccgtcttagc accatagcag cccangaaac caagagcaaa gaccacaacg 480
ccngctgcca atgaaagaaa ntaccacagt tgacaaactg catggccact ggacgacagt 540
tggcccgaan atcttcagaa aagggatgcc ccatcgattg aacaccana tgccactgc 600
cnacagggct gcnccnncn gaaagaatga gccattgaag aaggatcnc ntgggtcttaa 660
tgaactgaaa cntgcatgg tggcccctgt tcagggtctt tggcagtga ttctganaaa 720
aaggaacngc ntnagcccc ccaaangana aaacaccccc ggggtgttgc ctgaattggc 780
ggccaaggan cctgcccen g 801

```

<210> 17

<211> 740

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(740)

<223> n = A,T,C or G

<400> 17

```

gtgagagcca ggcgteccct tgcctgccc ctcagtggca acacccggga gctgttttgt 60
cctttgtgga gcctcagcag ttccctcttt cagaactcac tgccaagagc cctgaacagg 120
agccaccatg cagtgettca gcttcattaa gaccatgatg atcctcttca atttgctcat 180
ctttctgtgt ggtgcagccc tgttggcagt gggcatctgg gtgtcaatcg atggggcatc 240
ctttctgaag atcttcgggc cactgtcgtc cagtgccatg cagtttgtca acgtgggcta 300
cttctctatc gcagccggcg ttgtggtctt tgccttttgt ttctgggct gctatgggtc 360
taagacggag agcaagtgtg cctcgtgac gttctctctc atcctcctcc tcctcttcat 420
tgctgaagtg gcagctgctg tggtcgcctt ggtgtacacc acaatggctg aaccattcct 480
gacgttgctg gtantgcctg ccatcaanaa agattatggg tcccaggaa aaattcactc 540
aantntggaa caccnccatg aaaagggtc caatttctgn tggcttcccc aactataccg 600
gaattttgaa agantcnccc tacttccaaa aaaaaanant tgccttttnc cccnttctgt 660
tgaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggntcncaaa 720

```

caaaaaaant nnaagggttn

740

<210> 18

<211> 802

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(802)

<223> n = A,T,C or G

<400> 18

ccgctggttg	cgctgggtcca	gngnagccac	gaagcacgtc	agcatcacaca	gcctcaatca	60
caaggctcttc	cagctgccgc	acattacgca	gggcaagagc	ctccagcaac	actgcatatg	120
ggatacactt	tacttttagca	gccaggggtga	caactgagag	gtgtcgaagc	ttattcttct	180
gagcctctgt	tagtgaggga	agattccggg	cttcagctaa	gtagtcagcg	tatgtcccat	240
aagcaaacac	tgtgagcagc	cgggaaggtag	aggcaaagtc	actctcagcc	agctctctaa	300
cattggggcat	gtccagcagt	tctccaaaca	cgtagacacc	agnggcctcc	agcacctgat	360
ggatgagtgt	ggccagcgct	gcccccttgg	ccgacttggc	taggagcaga	aattgctcct	420
ggttctgccc	tgtcaccttc	acttcgcgac	tcatactgc	actgagtgtg	ggggacttgg	480
gctcaggatg	tccagagacg	tggttccgcc	ccctcnctta	atgacaccgn	ccanncaacc	540
gtcggctccc	gccgantgng	ttcgtcgtnc	ctgggtcagg	gtctgctggc	cnctacttgc	600
aancttcgtc	nggcccattg	aattcacenc	accggaactn	gtangatcca	ctnnttctat	660
aaccggnngc	caccgcnmnt	ggaactccac	tcttnttncc	tttacttgag	ggttaaggtc	720
acccttnnng	ttaccttggg	ccaaacctn	ccntgtgtcg	anatngtnaa	tcnggncna	780
tnccancenc	atangaagcc	ng				802

<210> 19

<211> 731

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 19

cnaagcttcc	aggtnacggg	ccgcnaancc	tgacccnagg	tancanaang	cagncngcgg	60
gagcccaccg	tcacngngng	gngtctttat	nggagggggc	ggagccacat	cnctggacnt	120
cntgacccca	actccccncc	ncncantgca	gtgatgagtg	cagaactgaa	ggtnacgtgg	180
caggaaccaa	gancaaannc	tgctccnntc	caagtccgcn	nagggggcgg	ggctggccac	240
gcncatccnt	cnagtgtctg	aaagccccnn	cctgtctact	tgtttgagga	acngcnnnga	300
catgcccagn	gttanataac	nggcngagag	tnantttgcc	tctcccttcc	ggctgcgcan	360
cgngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccnngaate	tnccnccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcacctgnc	tgctcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggctctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gctccctgna	acaancnacc	600
cnncnntcca	agggggggnc	ggcccccaat	ccccccaacc	ntnaattnan	tttancccn	660
ccccnnggcc	cggcctttta	cnancntcnn	nnaacngggna	aaaccnnngc	tttncccaac	720
nnaatccncc	t					731

<210> 20

<211> 754

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (754)
 <223> n = A,T,C or G

<400> 20
 tttttttttt tttttttttt taaaaacccc ctccattnaa tgnaaacttc cgaaattgtc 60
 caacccccctc ntccaaatnn cnttttccgg gnggggggttc caaacccaan ttanntttgg 120
 annttaaatt aaatnttntt tggnggnnna anccnaatgt nangaaagt naaccanta 180
 tnancttnaa tncctggaaa cngtngntt ccaaaaatnt ttaaccctta antccctccg 240
 aaatngttna nggaaaaccc aanttctent aagggtgttt gaaggntnaa tnaaaanccc 300
 nnccaattgt ttttngccac gcctgaatta attggnttcc gntgttttcc nttaaaanaa 360
 ggnnancccc gggtantnaa tcccccnnc cccaattata ccganttttt ttngaattgg 420
 gancccnccg gaattaacgg ggnnnntccc tnttgggggg cnggnncccc ccccntccgg 480
 ggtnngggnc aggnccnaat tgtttaaggg tccgaaaaat cctccnaga aaaaaanctc 540
 ccaggntgag nntnggggtt ncccccccc cangggccct ctognanagt tgggggtttg 600
 ggggcctggg attttntttc cctntttnc tcccccccc ccngggganag aggttngngt 660
 tttgntcnnc ggcccnccn aaganccttn ccganttnan ttaaatccnt gcctnggcga 720
 agtccttgn agggntaaan ggccccctnn cggg 754

<210> 21
 <211> 755
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature.
 <222> (1)... (755)
 <223> n = A,T,C or G

<400> 21
 atcancccat gacccnaac nngggaccnc tcanceggnc nnncnaccnc eggcenatca 60
 nngtnagnnc actncnnttn natcacnccc cncnactac gccnncnanc cnacgcnta 120
 nncanattcc actganngcg cgangtngan ngagaaanct nataccanag ncaccanacn 180
 ccagctgtcc nanaangcct nnnatacnng nnnatccaat ntgnancctc cnaagtattn 240
 nncnncanatt gattttcctn anccgattac cctncccc tanccctcc ccccaacna 300
 cgaaggcnct ggncnnaagg nngcgncccc ccgctagntc cccncaagt cncnnccta 360
 aactcancn nattacnccg ttctgagta tcaactcccc aatctcacc tactcaactc 420
 aaaaanattc gatcaaaaat aatncaagcc tgnttatnac actntgactg ggtctctatt 480
 ttagnngtcc ntnaanctc ctaatacttc cagtcctnct tcnccaattt ccnaanggct 540
 ctttcngaca gcantttttg gttcccnntt gggttcttan ngaattgcc ttctnngaac 600
 gggtctntct tttccttcgg ttanccctgg ttcncccggc cagttattat ttcctntttt 660
 aaattctnc cntttanttt tggcnttca aacccccggc cttgaaaacg gccccctgg 720
 aaaaggttgt tttganaaaa tttttgtttt gttcc 755

<210> 22
 <211> 849
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (849)
 <223> n = A,T,C or G

<400> 22
 tttttttttt tttttangtg tngtcgtgca ggtagaggct tactacaant gtgaanacgt 60
 acgctnggan taangcgacc cgantttctag gannccctt aaaaatcanac tgtgaagatn 120

atcctgnnna	cggaanggtc	accggnggat	nntgctaggg	tgncnctcc	cannncttn	180
cataactcng	nggccctgcc	caccaccttc	ggcggccng	ngnccgggcc	cgggtcattn	240
gnnttaaccn	cactnngcna	ncgggttccn	ccccnncng	accnnggcga	tccggggtn	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccggnccc	ctttaccct	nnacaagcca	360
cngccntcta	gccnngccc	ccccccant	nngggggact	gecnannget	ccgttctng	420
nnaccccnnn	gggtncctcg	gttgtegant	cnaccgnang	ccanggatcc	cnaaggaagg	480
tgcggtnttg	gcccctaccc	ttegtncgg	nnccaccttc	ccgacnanga	nccgctccc	540
cncnncgnng	cctcncctcg	caacacccgc	netentcngt	ncggnnnccc	ccccacccgc	600
ncctcncnc	ngnccgnanc	ctccnccncc	gtctcannca	ccaccccgcc	ccgccaggcc	660
ntcanccacn	ggngacnng	nagcncntc	gcnccgcgcn	gcgnccct	cgcncngaa	720
ctnctcngg	ccantnncgc	tcaancenna	cnaaacgcgc	ctgcgcggcc	cgnagcgncc	780
ncctcncga	gtctcccg	cttcncccc	angnnttcn	cgaggacacn	nnaccccgcc	840
nncangcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(872)

<223> n = A,T,C or G

<400> 23

gcgcaaacta	tacttcgctc	gnactcgtgc	gcctcgtcnc	tcttttcctc	cgcaaccatg	60
tctgacnanc	ccgattnggc	ngatatcnan	aagntcganc	agtccaaact	gantaacaca	120
cacacnncan	aganaaatcc	netgccttcc	anagtanaen	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgca	atntgtcnc	gtttattntn	ccagcctcnc	240
ctnccnacc	tactcttcn	nagctgtcnn	accctngtn	cgnaaccccc	naggctcgga	300
tccgggtttn	nntgaccgng	cnnccccctc	ccccntccat	nacganccnc	ccgcaccacc	360
nanngcncgc	cccccgnnct	cttcgcnc	ctgtcctntn	ccccgtngc	ctggcncngn	420
accgcattga	ccctcgcnn	ctncnngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcncgc	gttccctccn	ncnncttcca	ccatcttct	tacnggggtc	540
ccnccgctc	tcnnncacnc	cctgggacgc	tntcctntgc	cccccttnac	tccccccctt	600
cgcgtgnc	cgnccccacc	ntcatttnca	nacgntcttc	acaannncct	ggntnnctcc	660
cnancnngcn	tcanccnag	ggaagggngg	ggnnccnntg	nttgacgttg	ngnggangtc	720
cgaanantcc	tncntcan	cctacccct	cggcggnnt	ctcngttnc	aacttancaa	780
ntctcccccg	ngngcncntc	tcagcctcnc	ccccccnct	ctctgcantg	tntctctgctc	840
tnaccnntac	gantnttcgn	cncctcttt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(815)

<223> n = A,T,C or G

<400> 24

gcattgcaagc	ttgagtattc	tatagngtca	cctaaatanc	ttggcntaat	catggctnta	60
netgncttcc	tgtgtcaaat	gtatacnaen	tanatatgaa	tctnatntga	caaganngta	120
tctnccatta	gtaacaantg	tnntgtccat	cctgtcngan	canattccca	tnnattncgn	180
cgcattcncn	gncantatn	taatngggaa	ntcnntnnnn	ncaccnncat	ctatctncc	240
gcnccctgac	tggagagat	ggatnanttc	tnntntgacc	nacatgttca	tcttggattn	300
aanaccccc	cgcngnccac	cgggtngnng	cnagcnnct	ccaagacctc	ctgtggaggt	360

aacctgcgtc	aganncatca	aacntgggaa	acccgcnncc	angtnnaagt	ngnnnncanan	420
gatcccgtec	aggnttnacc	atcccttcnc	agcgccccct	ttngtgcctt	anagnnagc	480
gtgtccnanc	cnetcaacat	ganacgcgcc	agnccanceg	caattnggca	caatgtcgnc	540
gaaccccccta	gggggantna	tncaaaancc	caggattgtc	cnencangaa	atcccncanc	600
ccnccctac	ccncttttg	gacngtgacc	aantcccgga	gtncagatcc	ggccngnctc	660
ccccaccggt	nncntgggg	gggtgaanct	cngnntcanc	cngncgaggn	ntcgnaagga	720
accggncctn	ggncgaanng	ancnntcnga	agngccnct	cgtataaccc	cccctcncca	780
nccnacngnt	agntcccccc	cngggtnccg	aangg			815

<210> 25

<211> 775

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (775)

<223> n = A,T,C or G

<400> 25

cagagatgtc	tcgctccgtg	gccttagctg	tgctcgcgt	actctctctt	tctggcctgg	60
aggctatcca	gcgtactcca	aagattcagg	tttactcacg	tcateccagca	gagaatggaa	120
agtcaaattt	cctgaattgc	tatgtgtctg	ggtttcatcc	atccgacatt	gaanttact	180
tactgaagaa	tgganagaga	attgaaaaag	tggagcattc	agacttgtct	ttcagcaagg	240
actggtcttt	ctatctontg	tactacactg	aattcacccc	cactgaaaaa	gatgagtatg	300
cctgcctgtg	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gatcgagaca	360
tgtaagcagn	cnnatggaa	gtttgaagat	gccgcatttg	gattggatga	attccaaatt	420
ctgcttgctt	gcntttta	antgatatgc	ntatacacc	taccctttat	gnccccaat	480
tgtaggggtt	acatnantgt	tcnctnngga	catgatcttc	ctttataant	ccnccnttcg	540
aattgcccgt	cncncngttn	ngaattgttc	cnaaaccacg	gttggtctcc	ccaggtcncc	600
tcttacggaa	gggcctgggc	cnctttncaa	ggttggggga	accnaaaatt	tcncttntgc	660
ccncccncca	cnntcttgng	nnncanttt	ggaacccttc	cnattcccct	tggcctcnna	720
nccttnncta	aaaaaacttn	aaancgtngc	naaanntttt	acttcccccc	ttacc	775

<210> 26

<211> 820

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (820)

<223> n = A,T,C or G

<400> 26

anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaacggggc	ctagaggcat	60
cccanagata	ncttatanca	acagtgcctt	gaccaagagc	tgctgggcac	atttcctgca	120
gaaaagggtg	cgggtcccat	cactcctcct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcgggtggga	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
nctgaggggt	cacactataa	acgttaacga	ccnagatnan	cacctgcttc	aagtgcaccc	360
ttcctacctg	acnaccagng	accnnnaact	gcngcctggg	gacagcncgt	ggancagcta	420
acnnagcact	cacctgcccc	cccatggcgg	tnccgntccc	tggtcctgnc	aagggaaact	480
ccctgttgga	attncggggga	naccaaggga	nccccctcct	ccanctgtga	aggaaaaann	540
gatggaaatt	tncccttcct	gcnntcccc	tcttcttcta	cacgccccct	nntactcttc	600
tccctctntt	ntcctgncnc	acttttnacc	ccnnnatttc	ccttnattga	tggannctn	660
ganattccac	tnncgcctnc	cntcnatcng	naaanacnaa	nactntctna	ccnnggggat	720
gggnncctcg	ntcatcctct	ctttttcnct	accnccnntt	ctttgectct	ccttngatca	780

tccaacccntc gntggccntn cccccccnnn tccttttcccc

820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27

tctgggtgat	ggcctcttcc	tcctcagga	cctctgactg	ctctgggcca	aagaatctct	60
tgttttcttct	ccgagcccca	ggcagcgggtg	attcagccct	gcccacccctg	attctgatga	120
ctgcgggatgc	tgtgacggac	ccaaggggca	aatagggtcc	cagggtccag	ggaggggccc	180
ctgctgagca	cttccgcccc	tcaccctgcc	cagccctgc	catgagctct	gggctgggtc	240
tccgcctcca	gggttctgct	cttccangca	ngccancaa	tggcgctggg	ccacactggc	300
ttcttctctgc	cccttccctg	gctctganc	tctgtcttcc	tgctctgtgc	angcnccttg	360
gatctcagtt	tccctcctc	anngaactct	gtttctgann	tcttcantta	actntgantt	420
tatnaccnan	tggntctgtnc	tgtcnnactt	taatgggccc	gaccgggctaa	tccctccctc	480
ntcccttcc	anttcnnnna	accngettnc	ctcctctctc	ccntancccg	ccnggggaanc	540
ctcctttgcc	ctnaccangg	gccnnnaccg	ccctnnctn	ggggggcnnng	gtnnctncnc	600
ctgntnnccc	cncctcncnt	tncctcgtc	cnnccnccn	nngcannctc	ncngtcccn	660
tnctctctcn	ngtntcgnaa	ngtctcncnt	tnnnnngncn	ngtntntncn	tccctctcnc	720
cnnntgnang	tnnttnnnnc	ncngnccccc	nnnnnnnnnn	nggnntntnn	tctncncngc	780
cccnccccc	ngnattaagg	cctccntct	ccggccnc			818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28

aggaagggcg	gagggatatt	gtangggatt	gagggatagg	agnataangg	gggaggtgtg	60
tccaacatg	anggtgnngt	tctcttttga	angaggggtg	ngtttttann	ccnggtgggt	120
gattnaaccc	cattgtatgg	agnnaaagg	tttnagggat	ttttcggctc	ttatcagtat	180
ntanattcct	gtnaatcgga	aaatnatntt	tcnncnggaa	aatnttgctc	ccatccgnaa	240
attnctcccc	ggtagtgcat	nttnggggg	cngccangtt	tcccaggctg	ctanaatcgt	300
actaaagntt	naagtgggan	tncaaataaa	aacctnnac	agagnatccn	tacccgactg	360
tnnnttncct	tcgcccctng	actctgcnn	agcccaatac	ccnngngnat	gtcncncn	420
nnngcgncc	tgaaannnn	tcgnggctnn	gancatcang	gggtttcgca	tcaaaagcnn	480
cgtttccat	naaggcactt	tngectcctc	caaccnctng	ccctcnncca	tttngccgtc	540
nggttccct	acgctnnntg	cncctnnntn	ganattttnc	ccgcctnggg	naancctcct	600
gnaatgggta	gggnccttnc	tttnaccnn	ngggtntact	aatcnnctnc	acgctntctt	660
tctnaccccc	cccccttttt	caatcccan	ggcnaatggg	gtctccccnn	cgangggggg	720
nnnccann	c					731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtccag tgtggtggaa ttccattgtg ttggggncnc ttctatgant antnttagat 60
 cgctcanacc tcacancctc ccnacnangc ctataangaa nannaataga nctgtncnnt 120
 atntntacnc tcatannect cnnnaccac tccctcttaa cccntactgt gcctatngcn 180
 tnnctantct ntgccgectn cnanccaccn gtgggccnac cncnngnatt ctcnatctcc 240
 tcnccatntn gcctananta ngtncatacc ctataacctac nccaatgcta nnnctaancn 300
 tccatnantt annntaacta ccaactgaent ngactttcnc atnanctcct aatttgaatc 360
 tactctgact cccacngcct annnattagc anentcccc nacnatntct caaccaaatc 420
 ntcaacaacc tatctantctg ttcnccaacc nttncctccg atccccnnac aacccccctc 480
 ccaaataccc nccacctgac ncctaaccen caccatcccg gcaagccnan ggnccatttan 540
 ccaactggaat cacnatngga naaaaaaac ccnaactctc tancncnnat ctcacctana 600
 aatnctcctn naatttactn ncantnccat caancccaen tgaaacnnaa cccctgtttt 660
 tanatccctt ctttcgaaaa ccnaccctt annncccaac ctttngggcc ccccnctnc 720
 ccnaatgaag gncnccaat cnangaaacg nccntgaaaa ancnaggcna anannntccg 780
 canatcctat cccttanttn ggggnccctt nccnggggcc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cgcccgctg ctctggcaca tgctctctga atggcatcaa aagtgatgga ctgcccattg 60
 ctagagaaga ccttctctcc tactgtcatt atggagccct gcagactgag ggctccccctt 120
 gtctgcagga tttgatgtct gaagtcgtgg agtgtggctt ggagctcctc atctacatna 180
 gctggaagcc ctggagggcc tctctcgcca gcctccccct tctctccacg ctctccangg 240
 acaccagggg ctccaggcag cccattatc ccagnangac atggtgtttc tccacgcgga 300
 cccatggggc ctgnaaggcc aggggtctcct ttgacaccat ctctcccgtc ctgcttgga 360
 ggcgtggga tccactantt ctanaacggg cgcacccncg gtgggagctc cagcttttgt 420
 tcccnttaat gaagggttaat tgcncgcttg gcgtaatcat nggtcanaac tntttctgt 480
 gtgaaattgt ttntccctc ncnattccnc ncnacatacn aaccgggan cataaagtgt 540
 taaagcctgg gggtnccctn nngaataaac tnaactcaat taattgcgtt ggctcatggc 600
 ccgctttccn ttcnggaaaa ctgtcntccc ctgcnttnt gaatcggcc ccccccnggg 660
 aaaagcggtt tgcnttttng ggggntcctt cccctccccc cctcnctaan cccnccgct 720
 cggtcgttnc nggtngcggg gaangggnat nnnctccnc naagggggng agnnngntat 780
 ccccaaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31

```

tttttttttt tttttttggc gatgctactg ttttaattgca ggaggtgggg gtgtgtgtac      60
catgtaccag ggctattaga agcaagaagg aaggaggagg ggcagagcgc cctgctgagc      120
aacaaaggac tcctgcagcc ttctctgtct gtctcttggc gcaggcacat ggggaggcct      180
cccgagggtt gggggccacc agtccagggt tgggagcact acanggggtg ggagtgggtg      240
gtggctggtn cnaatggcct gncacanatc cctacgattc ttgacacctg gatttcacca      300
ggggaccttc tgttctccca nggnaacttc nttnatctcn aaagaacaca actgtttctt      360
cngcanttct ggctgttcat ggaaagcaca ggtgtccnat ttnggctggg acttgggtaca      420
tatggttccg gccacactct ccntcnaaa aagtaattca ccccccccn cctctnttg      480
cctgggccct taantacca caccggaact canttanta ttcattctng gntgggcttg      540
ntnatcnccn cctgaangcg ccaagttgaa agggcacgcc gtncnctc cccatagnan      600
nttttnnctn canctaagc cccccnggc aacnatcaa tcccccccn tgggggcccc      660
agcccanggc ccccgntcgc ggnnccngn cncgnantcc ccaggntctc ccantcngnc      720
ccnnngcncc ccgcacgca gaacanaagg ntngagccnc cgcannnnnn nggtnnncac      780
ctcgcccccc ccnncgng

```

<210> 32

<211> 789

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (789)

<223> n = A,T,C or G

<400> 32

```

tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt      60
ttttnccnag ggcagggtta ttgacaacct cncgggacac aancaggctg gggacaggac      120
ggcaacagge tccggcgggc gcgggcgggc cctacactgc ggtaccaaata ntgcagcctc      180
cgctcccgct tgatnttctt ctgcagctgc aggatgcctt aaaacagggc ctcggccntn      240
ggtgggcacc ctgggatttn aatttccacg ggcacaatgc ggtcgcancc cctcaccacc      300
nattaggaat agtggtnnta ccnccnccg ttggcncact ccccntggaa accacttntc      360
gcggtctcgg catctggtct taaaccttgc aaacnctggg gccctctttt tggttantnt      420
nccngccaca atcatnactc agactggcnc gggctggccc caaaaaancn ccccaaaacc      480
ggnccatgtc ttncgggggt tgetgcnatn tncatcacct cccgggcnca ncaggncaac      540
ccaaaagtte ttgnggccc caaaaaanct ccgggggggnc ccagtttcaa caaagtcac      600
ccccttggcc cccaaatcct cccccgntt nctgggtttg ggaaccacg cctctnnctt      660
tggnnggcaa gntgntccc ccttcgggac cccggtgggc ccnctctaa ngaaaacncc      720
ntcctnnnca ccatcccccc nngnnacgnc tancaangna tccctttttt tanaaacggg      780
ccccccnccg

```

<210> 33

<211> 793

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (793)

<223> n = A,T,C or G

<400> 33

```

gacagaacat gttggatggt ggagcacctt tctatacgac ttacaggaca gcagatgggg      60
aattcatggc tgttggagca atanaacccc agttctacga gctgctgatc aaaggacttg      120
gactaaagtc tgatgaactt ccaaatcaga tgagcatgga tgattggcca gaaatgaana      180
agaagtttgc agatgtatnt gcaaagaaga cgaaggcaga gtggtgtcaa atctttgacg      240
gcacagatgc ctgtgtgact ccggttctga cttttgagga ggttgttcat catgatcaca      300
acaangaacg gggctcgttt atcaccantg aggagcagga cgtgagcccc cgccctgcac      360

```

ctctgctggt	aaacacccca	gccatccctt	ctttcaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tecagctttt	gttcccttta	gtgagggtta	attgcgcgct	480
tggcgtaate	atggtcatan	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggn	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtccggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcnttcccc	gctttctcgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgcggcna	780
acggtatcna	cct					793

<210> 34

<211> 756

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (756)

<223> n = A,T,C or G

<400> 34

gccgcgaccg	gcatgtacga	gcaactcaag	ggcgagtggga	accgtaaaag	ccccaatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagtgc	ttctggagct	caacttcttg	120
ccaaccacag	ggaccaagct	gaccaaacag	cagctaattc	tggcccgtag	catactggag	180
atcgggggccc	aatggagcat	cctacgcaan	gacatccctt	ccttcgagcg	ctacatggcc	240
cagctcaaatt	gctactactt	tgattacaan	gagcagctcc	ccgagtcagc	ctatatgcac	300
cagctctttgg	gcctcaacct	cctcttcttg	ctgtcccaga	accgggtggc	tgantnccac	360
acgganttgg	ancggctgcc	tgcccaanga	catacanacc	aatgtctaca	tcnaccacca	420
gtgtctctgga	gcaatactga	tgganggcag	ctaccncaaa	gtnttcctgg	ccnagggtaa	480
catccccgcg	cgagagctac	accttcttca	ttgacatcct	gctcgacact	atcaggggatg	540
aaaatcgcn	ggttgctcca	gaaaggctnc	aanaanatcc	ttttcnctga	agggccccgg	600
atnncntagt	nctagaatcg	gcccgccatc	gcggtgganc	ctccaacctt	tcgttnccct	660
ttactgaggg	ttnattgccg	cccttggcgt	tatcatggtc	acnccngttn	cctgtgttga	720
aattnttaac	ccccacaaat	tccacgccna	cattng			756

<210> 35

<211> 834

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (834)

<223> n = A,T,C or G

<400> 35

ggggatctct	anactnacct	gnatgcatgg	ttgtcggtgt	ggtcgctgtc	gatgaanatg	60
aacaggatct	tgcccttgaa	gctctcggtc	gctgtnttta	agttgctcag	tctgccgtca	120
tagtcagaca	cnctcttggg	caaaaaacan	caggatntga	gtcttgattt	cacctccaat	180
aatcttcngg	gctgtctgct	cggtgaactc	gatgaanang	ggcagctggt	tgtgtntgat	240
aaantccanc	angttctcct	tggtgacctc	cccttcaaag	ttgttccggc	cttcatcaaa	300
cttctnnaan	angannancc	canctttgtc	gagctggnat	ttgganaaca	cgctactggt	360
ggaaactgat	cccaaattgt	atgtcatcca	tcgcctctgc	tgccctgcaa	aaacttgctt	420
ggcncaaate	cgactcccn	tccttgaaag	aagccnatca	cacccccctc	cctggactcc	480
nmcaangact	ctnccgctnc	ccntccnng	caggggttgg	ggcannccgg	gcccntgcgc	540
ttcttcagcc	agttcacnat	nttcatcagc	ccctctgcc	gctgtntat	tccttggggg	600
ggaanccgtc	tctcccttcc	tgaannaact	ttgaccgtng	gaatagccgc	gcntcnccnt	660
acntnctggg	ccgggttcaa	antccctccn	ttgnenntcn	cctcgggcca	ttctggattt	720
nccnaacttt	ttccttcccc	cncctccnng	ngtttggntt	tttcatnggg	ccccaaactct	780

gctnttggcc anteccttgg gggcntntan cneccctnt ggtcccntng ggcc

834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (814)
 <223> n = A,T,C or G

<400> 36
 cggnccgttt ccngccgcgc cccgtttcca tgacnaaggc tcccttcang ttaaatacnn 60
 cctagnaaac attaatgggt tgctctacta atacatcata cnaaccagta agcctgcccc 120
 naacgccaac tcaggccatt cctaccaaaag gaagaaaggc tggctctctcc acccctgtga 180
 ggaaaggcct gccttgtaag acaccacaat ncggctgaat ctnaagtctt gtgttttact 240
 aatggaaaaa aaaaataaac aanaggtttt gttctcatgg ctgcccaccg cagcctggca 300
 ctaaaacanc ccagcgctca cttctgcttg ganaaatatt ctttgctctt ttggacatca 360
 ggcttgatgg tatcactgcc acntttccac ccagctgggc ncccttcccc catntttgtc 420
 antganctgg aaggcctgaa ncttagtctc caaaagtctc ngcccacaag accggccacc 480
 agggggangtc ntttncagtg gatctgccaa anantaccn tatcatcnnt gaataaaaag 540
 gcccctgaac ganatgcttc cancanctt taagacccat aatcctngaa ccatgggtgcc 600
 cttccgtctc gatccnaaag gaatgttctt gggteccant cctcctttg ttncctacgt 660
 tgtnttggac cntgtctngn atnaccnaan tganatcccc ngaagcacc tncctctggc 720
 atttganttt cntaaattct ctgccctacn nctgaaagca cnattccctn ggcnccnaan 780
 ggngaactca agaaggtctn ngaaaaacca cncn 814

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (760)
 <223> n = A,T,C or G

<400> 37
 gcatgctgct cttcctcaaa gttgttcttg ttgccataac aaccaccata ggtaaagcgg 60
 gcgcagtgtt cgctgaagg gttgtagtac cagcgcgga tgctctcctt gcagagtcct 120
 gtgtctggca ggtccacgca atgccctttg tcaactggga aatggatgag ctggagctcg 180
 tnaanccac tcgtgtattt ttacangca gcctcctccg aagcntccgg gcagttgggg 240
 gtgtcgtcac actccactaa actgtcgatn cancagccca ttgctgcagc ggaactgggt 300
 gggctgacag gtgccagaac acactggatn ggcctttcca tggaaaggcc tgggggaaat 360
 cncctnancc caaactgcct ctcaaaggcc accttgacac ccccgacagg ctagaaatgc 420
 actcttcttc ccaaaggtag ttgttcttgg tgcccaagca ncctccanca aacaaaaanc 480
 ttgcaaaatc tgctccgtgg gggctcatnnn taccanggtt ggggaaanaa accggcngn 540
 ganccnctt gtttgaatgc naaggnaata atcctcctgt cttgcttggg tggaaanagca 600
 caattgaact gttaacnttg ggcgngttc cncnngggtg gtctgaaact aatcacgctc 660
 actggaaaaa ggtangtgcc ttccttgaat tcccaaannt cccctngntt tgggtntttt 720
 ctctctncc ctaaaaatcg tnttcccccc centangggc 760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(724)
 <223> n = A,T,C or G

<400> 38
 tttttttttt tttttttttt tttttttttt ttttttaaaaa cccctcccat tgaatgaaaa 60
 cttccnaaat tgtccaaccc cctcnnccaa atnnccattt ccggggggggg gttccaaacc 120
 caaattaatt ttgganttta aattaaatnt tnattngggg aanaanccaa atgtnaagaa 180
 aatttaaccc attatnaact taaatncctn gaaacccntg gnttccaaaa atttttaacc 240
 cttaaatccc tccgaaattg ntaanggaaa accaaattcn cctaaggctn tttgaagggtt 300
 ngatttaaac ccccttnant tnttttnacc cnngnctnaa ntatttngnt tccggtgttt 360
 tcctnttaan cntnggtaac tcccgnataa gaannncctt aanccaatta aaccgaattt 420
 tttttgaatt ggaaattccn ngggaattna ccgggggttt tcccntttgg gggccatncc 480
 cccnctttcg ggggtttgggn ntaggttgaa tttttnnang nccccaaaaa ncccccaana 540
 aaaaaactcc caagnnttaa ttngaattnc ccccttccca ggccttttgg gaaaggnggg 600
 tttntggggg ccngggantt cnttccccn ttncncccc cccccnggt aaanggttat 660
 ngmnttgggt ttttgggcc cttnanggac ctccggatn gaaattaaat ccccggnccg 720
 gccg 724

<210> 39
 <211> 751
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 39
 tttttttttt tttttctttg ctcacattta atttttattt tgattttttt taatgctgca 60
 caacacaata tttatttcat ttgtttcttt tatttcattt tatttgtttg ctgctgctgt 120
 tttatttatt tttactgaaa gtgagaggga acttttgtgg ccttttttcc tttttctgta 180
 ggccgcctta agctttteta atttggaaca tctaagcaag ctgaanggaa aagggggttt 240
 cgaaaatca ctccgggggaa nggaaagggt gctttgttaa tcatgcccta tgggtgggtga 300
 ttaactgctt gtacaattac ntttcacttt taattaattg tgetnaangc ttttaattana 360
 cttgggggtt ccttccccan accaaccnccn ctgacaaaaa gtgccngccc tcaaatnatg 420
 tcccggcnnt cnttgaaaca cacngcngaa ngttctcatt ntccccncnc caggtnaaaa 480
 tgaagggtta ccatntttta cncacctcc acntggcnnn gcctgaatcc tcnaaaancn 540
 cctcaancn aattntnng ccccggtcnc gcntnngtcc cnccegggt cggggaantn 600
 cccccnga annnntnnc naacnaaatt ccgaaaatat tccnntcnc tcaattcccc 660
 cnnagactnt cctcnnncan cncaattttc ttttntcac gaacncgnnc cnnaaaatgn 720
 nnnncnctc cnetngtccn naatcnccan c 751

<210> 40
 <211> 753
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(753)
 <223> n = A,T,C or G

<400> 40
 gtggattttt ctgtaagatc aggtgttccct cctcgtagg tttagaggaa acaccctcat 60
 agatgaaaac cccccgaga cagcagcact gcaactgcc aagcagccggg gtaggagggg 120

cgccctatgc	acagctgggc	ccttgagaca	gcagggttc	gatgtcaggc	tcgatgtcaa	180
tggctcggaa	gcggcggctg	tacctgcgta	ggggcacacc	gtcagggccc	accaggaact	240
tctcaaagtt	ccaggcaacn	tcgttgcgac	acaccggaga	ccaggtgatn	agcttggggg	300
cggtcataa	cgcgggtggc	tcgtcgctgg	gagctggcag	ggcctcccgc	aggaaggcna	360
ataaaaggtg	cgcccccgca	ccgttcanc	cgcacttctc	naanaccatg	angttgggct	420
cnaaccacc	accannccgg	acttccttga	nggaattccc	aaatctcttc	gntcttgggc	480
ttctnctgat	gcccctanctg	gttgcccngn	atgccaanca	nccccaancc	ccgggggtcct	540
aaanaccn	cctcctcctt	tcactctggg	tnttntoccc	ggacctgggt	tcctctcaag	600
gganccata	tctcnaccan	tactcaccnt	nccccccnt	gnnaccanc	cttctanngn	660
ttccncccg	ncctctggcc	cntcaaan	gcttnacna	cctgggtctg	ccttcccccc	720
tnccctatct	gnaccccn	tttgtctcan	tnt			753

<210> 41
 <211> 341
 <212> DNA
 <213> Homo sapien

<400> 41						
actatatcca	tcacaacaga	catgcttcat	cccatagact	tcttgacata	gcttcaaagt	60
agtgaaccca	tccttgattt	atatacatat	atgttctcag	tattttggga	gcctttccac	120
ttctttaaac	cttggttcatt	atgaacactg	aaaataggaa	tttgtgaaga	gttaaaaagt	180
tatagcttgt	ttacgtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tgttaaactg	tgatttttaa	aaaatatcat	ttgagaatat	tctttcagag	gtattttcat	300
ttttactttt	tgattaattg	tgttttatat	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42						
acttactgaa	tttagttctg	tgctcttctt	tatttagtgt	tgtatcataa	atactttgat	60
gtttcaaaca	ttctaaataa	ataattttca	gtggcttcat	a		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43						
acatctttgt	tacagtctaa	gatgtgttct	taaatcacca	ttccttctctg	gtcctcacc	60
tccaggggtg	tctcacactg	taattagagc	tattgaggag	tctttacagc	aaattaagat	120
tcagatgcct	tgctaagtct	agagttctag	agttatgttt	cagaaagtct	aagaaaccca	180
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttcatat	ctacaaaatg	accacaggat	240
tggatacaga	acgagagtta	tcctggataa	ctcagagctg	agtacctgcc	cggggggccgc	300
tcgaa						305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (852)
 <223> n = A,T,C or G

<400> 44

```

acataaatat cagagaaaag tagtctttga aatattttacg tccaggagtt ctttgtttct 60
gattatttgg tgtgtgtttt ggtttgtgtc caaagtattg gcagcttcag ttttcatttt 120
ctctccatcc tcgggcattc ttcccaaatt tatataccag tcttcgtcca tccacacgct 180
ccagaatttc tctttttag tagtatctca tagctcggct gagcttttca taggtcatgc 240
tgctgttgtt cttcttttta ccccatagct gagccactgc ctctgatttc aagaacctga 300
agacgccctc agatcgggtc tcccatttta ttaatcctgg gttcttgtct gggttcaaga 360
ggatgtcgcg gatgaattcc cataagttag tccctctcgg gttgtgcttt ttggtgtggc 420
acttggcagg ggggtcttgc tcctttttca tatcagggtga ctctgcaaca ggaagggtgac 480
tggtggttgt catggagatc tgagcccggc agaaagtttt gctgtccaac aaatctactg 540
tgctaccata gttggtgtca tataaatagt tctngtcttt ccagggtgtc atgatggaag 600
gctcagtttg ttcagtcttg acaatgacat tgtgtgtgga ctggaacagg tcactactgc 660
actggcgggt ccacttcaga tgctgcaagt tgctgtagag gagntgcccc gccgtccctg 720
ccgcccgggt gaactcctgc aaactcatgc tgcaaagggtg ctgcgggttg atgtcgaaact 780
cntggaaagg gatacaattg gcatccagct gggtgtgtgc caggagggtga tggagccact 840
cccacacctg gt 852

```

<210> 45

<211> 234

<212> DNA

<213> Homo sapien

<400> 45

```

acaacagacc cttgctcgct aacgacctca tgctcatcaa gttggacgaa tccgtgtccg 60
agtctgacac catccggagc atcagcattg cttcgcagtg ccctaccgcg gggaaactctt 120
gcctcgtttc tggtggtggg ctgctggcga acggcagaat gcctaccgtg ctgcagtgcg 180
tgaacgtgtc ggtggtgtct gaggaggtct gcagtaagct ctatgacccg ctgt 234

```

<210> 46

<211> 590

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (590)

<223> n = A,T,C or G

<400> 46

```

actttttatt taaatgttta taaggcagat ctatgagaat gatagaaaac atggtgtgta 60
atttgatagc aatatttttg agattacaga gtttttagtaa ttaccaatta cacagttaaa 120
aagaagataa tatattccaa gcanatacaa aatatctaata gaaagatcaa ggcaggaaaa 180
tgantataac taattgacaa tggaaaatca attttaatgt gaattgcaca ttatccttta 240
aaagctttca aaanaanaa ttattgcagt ctanttaatt caaacagtgt taaatggtat 300
caggataaan aactgaaggg canaaagaat taattttcac ttcattgtaac ncacccanat 360
ttacaatggc ttaaattgcan ggaaaaagca gtggaagtag ggaagtantc aaggctcttc 420
tggtctctaa tctgccttac tctttgggtg tggctttgat cctctggaga cagctgccag 480
ggctcctgtt atatccacaa tcccagcagc aagatgaagg gatgaaaaag gacacatgct 540
gccttccttt gaggagactt catctcactg gccaacactc agtcacatgt 590

```

<210> 47

<211> 774

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (774)

<223> n = A,T,C or G

<400> 47
 acaagggggc ataatgaagg agtggggana gatttttaaag aaggaaaaaa aacgaggccc 60
 tgaacagaat tttcctgnac aacggggcctt caaaataatt ttcttgggga ggttcaagac 120
 gcttcaactgc ttgaaactta aatggatgtg ggacanaatt ttctgtaatg accctgaggg 180
 cattacagac gggactcttg gaggaaggat aaacagaaag gggacaaagg ctaatcccaa 240
 aacatcaaag aaaggaagggt ggcgtcatac ctcccagcct acacagttct ccagggtct 300
 cctcatccct ggaggacgac agtggaggaa caactgacca tgtccccagg ctctgtgtg 360
 ctggctcctg gtcttcagcc cccagctctg gaagcccacc ctctgctgat cctgcgtggc 420
 ccacactcct tgaacacaca tccccagggtt atattccttg acatggctga acctcctatt 480
 cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccactcac cctccaaacc 540
 acggcatggg aagcctttct gacttgccctg attactccag catcttggaa caatccctga 600
 ttccccactc cttagaggca agataggggtg gttaagagta gggctggacc acttggagcc 660
 aggctgctgg cttcaaattn tggctcattt acgagctatg ggaccttggg caagtnatct 720
 tcacttctat gggcntcatt ttgttctacc tgcaaaatgg gggataataa tagt 774

<210> 48
 <211> 124
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 48
 canaaattga aattttataa aaaggcattt ttctcttata tccataaaat gatataattt 60
 ttgcaantat anaaatgtgt cataaattat aatgttcctt aattacagct caacgcaact 120
 tggt 124

<210> 49
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 49
 gccgatgcta ctattttatt gcaggaggtg ggggtgtttt tattattctc tcaacagctt 60
 tgtggctaca ggtgggtgtct gactgcatna aaaanttttt tacgggtgat tgcaaaaatt 120
 ttagggcacc catatcccaa gcantgt 147

<210> 50
 <211> 107
 <212> DNA
 <213> Homo sapien

<400> 50
 acattaaatt aataaaagga ctgttgggggt tctgctaaaa cacatggctt gatataattgc 60
 atggtttgag gttaggagga gttaggcata tgttttggga gaggggt 107

<210> 51
 <211> 204
 <212> DNA

<213> Homo sapien

<400> 51

gtcctaggaa gtctagggga cacacgactc tgggggtcacg gggccgacac acttgacagg	60
cgggaaggaa aggcagagaa gtgacaccgt caggggggaaa tgacagaaag gaaaatcaag	120
gccttgcaag gtcagaaagg ggactcaggg cttccaccac agccctgccc cacttggcca	180
cctccctttt gggaccagca atgt	204

<210> 52

<211> 491

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(491)

<223> n = A,T,C or G

<400> 52

acaaagataa catttatctt ataacaaaaa tttgatagtt ttaaagggtta gtattgtgta	60
gggtattttc caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaaca	120
ccatcagaca ggttttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa	180
aaaacttctt gtatcaattt cttttgttca aaatgactga cttantatt tttaaattatt	240
tcanaaacac ttcttcaaaa attttcaana tggtagcttt canatgtnc ctcagtccca	300
atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc	360
atgcaacagt gtcttttctt tnccttttct tttttttttt ttacaggcac agaaactcat	420
caatttttatt tggataacaa aggggtctcca aattatattg aaaaataaat ccaagttaat	480
atcactcttg t	491

<210> 53

<211> 484

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(484)

<223> n = A,T,C or G

<400> 53

acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga	60
gtattaacag ttgctgaagt ttggtatttt tatgcagcat tttctttttg ctttgataac	120
actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct	180
caatcaaate tctacataac actatagtaa ttaaaacgtt aaaaaaaagt gttgaaatct	240
gcactagtat anaccgctcc tgtcaggata anactgcttt ggaacagaaa gggaaaaanc	300
agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttgtt gcctctccct	360
aatgattggc aggtcnggta aatnccaaa catattccaa ctcaacactt cttttccncg	420
tancttgant ctgtgtatcc caggancagg cggatggaat gggccagccc ncggatgttc	480
cant	484

<210> 54

<211> 151

<212> DNA

<213> Homo sapien

<400> 54

actaaacctc gtgcttgga actccataca gaaaacgggtg ccatccctga acacggctgg	60
ccactgggta tactgctgac aaccgcaaca aaaaaaacac aaatccctgg cactgggctag	120

tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gttcccggcg ccccccacgg tccccagaac ggacactttc 60
 gccctccagt ggatactcga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggccgatgtg cgttgggttat atacaaatat gtcattttat gtaagggact tgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgggccagga accaatacc catggatacc 120
 aagggacaac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60
 gactgggagc tgagcccttc cctttgcgcc tgcctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata catttatcct ttaaaaaaga tgtaaatctt aatttttatg ccatctatta 120
 attaccaat gagttacctt gtaaatgaga agtcatgata gcactgaatt ttaactagtt 180
 ttgacttcta agtttgggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59

acaacaaatg ggttgtgagg aagtcttatac agcaaaaactg gtgatggcta ctgaaaagat	60
ccattgaaaa ttatcattaa tgatttttaa tgacaagta tcaaaaactc actcaatttt	120
cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa	180
tacagtcaat aaatgacaaa gccagggcct acaggtggtt tccagacttt ccagacccag	240
cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt	300
tttcgtcttt attggacttc tttgaagagt	330

<210> 60

<211> 175

<212> DNA

<213> Homo sapien

<400> 60

accgtgggtg ctttctacat tcctgacggc tccttcacca acatctggtt ctacttcggc	60
gtcgtgggct ctttctctt cctcctcctc cagctgggtg tgctcatcga ctttgcgcac	120
tcctggaacc agcgtgggtg gggcaaggcc gaggagtgcg attcccgtgc ctggt	175

<210> 61

<211> 154

<212> DNA

<213> Homo sapien

<400> 61

accccacttt tcctcctgtg agcagctctgg acttctcact gctacatgat gaggggtgagt	60
ggttgttgct cttcaacagt atcctcccct ttccggatct gctgagccgg acagcagtcg	120
tggactgcac agccccgggg ctccacattg ctgt	154

<210> 62

<211> 30

<212> DNA

<213> Homo sapien

<400> 62

cgctcgagcc ctatagttag tcgtattaga	30
----------------------------------	----

<210> 63

<211> 89

<212> DNA

<213> Homo sapien

<400> 63

acaagtcatt tcagcacct ttgctcttca aaactgacca tcttttatat ttaatgcttc	60
ctgtatgaat aaaaatggtt atgtcaagt	89

<210> 64

<211> 97

<212> DNA

<213> Homo sapien

<400> 64

accggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa gggtctgcag	60
aatcagtgc tccaggattg gtccttggat ctggggg	97

<210> 65

<211> 377

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (377)

<223> n = A,T,C or G

<400> 65

acaacaanaa	ntcccttctt	taggccactg	atggaaacct	ggaacccctt	tttgatggca	60
gcatggcgctc	ctaggccttg	acacagcggc	tggggtttgg	gctntcccaa	accgcacacc	120
ccaaccctgg	tctaccacaca	nttctggcta	tgggctgtct	ctgccactga	acatcagggg	180
tcggtcataa	natgaaatcc	caanggggac	agaggtcagt	agaggaagct	caatgagaaa	240
ggtgctgttt	gctcagccag	aaaacagctg	cctggcattc	gccgctgaac	tatgaaccgg	300
tgggggtgaa	ctacccccan	gaggaatcat	gcctgggcga	tgcaanggtg	ccaacaggag	360
gggcggggag	agcatgt					377

<210> 66

<211> 305

<212> DNA

<213> Homo sapien

<400> 66

acgcctttcc	ctcagaattc	aggggaagaga	ctgtcgccctg	ccttcctccg	ttgttgcgctg	60
agaacccgtg	tgcccccttc	caccatatcc	accctcgctc	catctttgaa	ctcaaacacg	120
aggaactaac	tgacccctgg	tcctctcccc	agtcctccagt	tcacctcca	tcctcacct	180
tcctccactc	taagggatat	caacactgcc	cagcacaggg	gccctgaatt	tatgtggttt	240
ttatatattt	tttaataaga	tgcactttat	gtcatttttt	aataaagtct	gaagaattac	300
tgttt						305

<210> 67

<211> 385

<212> DNA

<213> Homo sapien

<400> 67

actacacaca	ctccacttgc	ccttgtgaga	cactttgtcc	cagcacttta	ggaatgctga	60
ggtcggacca	gccacatctc	atgtgcaaga	ttgccagca	gacatcagg	ctgagagttc	120
cccttttaaa	aaaggggact	tgcttaaaaa	agaagtctag	ccacgattgt	gtagagcagc	180
tgtgctgtgc	tggagattca	cttttgagag	agttctcctc	tgagacctga	tcttttagagg	240
ctgggcagtc	ttgcacatga	gatggggctg	gtctgatctc	agcactcctt	agtctgcttg	300
cctctcccag	ggccccagcc	tggccacacc	tgcttacagg	gcactctcag	atgcccatac	360
catagtttct	gtgctagtgg	accgt				385

<210> 68

<211> 73

<212> DNA

<213> Homo sapien

<400> 68

acttaaccag	atatatTTTT	accccagatg	gggatattct	ttgtaaaaaa	tgaaaataaa	60
gtttttttta	tg					73

<210> 69

<211> 536

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (536)

<223> n = A,T,C or G

<400> 69

actagtccag	tgtggtggaa	ttccattgtg	ttggggggtc	tcaccctcct	ctcctgcagc	60
tccagctttg	tgctctgcct	ctgaggagac	catggcccag	catctgagta	ccctgctgct	120
cctgctggcc	accctagctg	tggccctggc	ctggagcccc	aaggaggagg	ataggataat	180
ccgggtggc	atctataacg	cagacctcaa	tgatgagtgg	gtacagcgtg	cccttcactt	240
cgccatcagc	gagtataaca	aggccaccaa	agatgactac	tacagacgtc	cgctgcgggt	300
actaagagcc	aggcaacaga	ccgttggggg	ggtgaattac	ttcttcgacg	tagagggtgg	360
ccgaaccata	tgtaccaagt	cccagcccaa	cttggacacc	tgtgccttcc	atgaacagcc	420
agaactgcag	aagaaacagt	tgtgctcttt	cgagatctac	gaagtccct	ggggagaaca	480
gaangtccct	gggtgaaatc	caggtgtcaa	gaaatcctan	ggatctgttg	ccaggc	536

<210> 70

<211> 477

<212> DNA

<213> Homo sapien

<400> 70

atgacccta	acaggggccc	tctcagccct	cctaattgacc	tccggcctag	ccatgtgatt	60
tcacttccac	tccataacgc	tcctcatact	aggcctacta	accaacacac	taaccatata	120
ccaatgatgg	cgcgatgtaa	cacgagaaag	cacataccaa	ggccaccaca	caccacctgt	180
ccaaaaaggc	cttcgatacg	ggataatcct	atttattacc	tcagaagttt	ttttcttcgc	240
agggattttt	ctgagccttt	taccactcca	gcctagcccc	taccccccaa	ctaggagggc	300
actggccccc	aacaggcatc	accccgctaa	atccccctaga	agtcccactc	ctaaacacat	360
ccgtattact	cgcatacagg	gtatcaatca	cctgagctca	ccatagtcta	atagaaaaca	420
accgaaacca	aattattcaa	agcactgctt	attacaattt	tactgggtct	ctattttt	477

<210> 71

<211> 533

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(533)

<223> n = A,T,C or G

<400> 71

agagctatag	gtacagtgtg	atctcagctt	tgcaaacaca	ttttctacat	agatagtact	60
aggtattaat	agatatgtaa	agaaagaaat	cacaccatta	ataatggtaa	gattgggtta	120
tgtgatttta	gtggtatttt	tggcaccctt	atatatgttt	tccaaacttt	cagcagtgat	180
attattttcca	taacttaaaa	agtgagtgtt	aaaaagaaaa	tctccagcaa	gcatctcatt	240
taaataaagg	tttgtcatct	ttaaaaatac	agcaatatgt	gactttttta	aaaagctgtc	300
aaataggtgt	gaccctacta	ataattatta	gaaatacatt	taaaaacatc	gagtacctca	360
agtcagtttg	ccttgaaaaa	tatcaaatat	aactcttaga	gaaatgtaca	taaaagaatg	420
cttcgtaatt	ttggagtang	aggttccttc	ctcaattttg	tattttttaa	aagtacatgg	480
taaaaaaaaa	aattcacaac	agtatataag	gctgtaaaaa	gaagaattct	gcc	533

<210> 72

<211> 511

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(511)

<223> n = A,T,C or G

<400> 72

tattacggaa	aaacacacca	cataattcaa	ctancaaaga	anactgcttc	agggcggtgta	60
aaatgaaagg	cttccaggca	gttatctgat	taaagaacac	taaaagaggg	acaaggctaa	120
aagccgcagg	atgtctacac	tatancaggc	gctatttggg	ttggctggag	gagctgtgga	180
aaacatggan	agattgggtgc	tgganacgc	cgtggctatt	cctcattgtt	attacanagt	240
gaggttctct	gtgtgcccac	tggtttgaaa	accgttctnc	aataatgata	gaatagtaca	300
cacatgagaa	ctgaaatggc	ccaaaccag	aaagaaagcc	caactagatc	ctcagaanac	360
gcttctaggg	acaataaccg	atgaagaaaa	gatggcctcc	ttgtgcccc	gtctgttatg	420
atctctctcc	attgcagcna	naaacccgtt	cttctaagca	aacncaggtg	atgatggcna	480
aaatacaccc	cctcttgaag	naccnggagg	a			511

<210> 73

<211> 499

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(499)

<223> n = A,T,C or G

<400> 73

cagtgccagc	actggtgcca	gtaccagtac	caataacagt	gccagtgcc	gtgccagcac	60
cagtgggtggc	ttcagtgtg	gtgccagcct	gaccgccact	ctcacatttg	ggctcttcgc	120
tggccttggt	ggagctgggt	ccagcaccag	tggcagctct	gggtgcctgtg	gtttctccta	180
caagttagat	tttagatatt	gttaatcctg	ccagtctttc	tcttcaagcc	aggggtgcac	240
ctcagaaacc	tactcaacac	agcaactctag	gcagccacta	tcaatcaatt	gaagttgaca	300
ctctgcatta	aatctatttg	ccatttctga	aaaaaaaaaa	aaaaaaaggg	cggccgctcg	360
antctagagg	gcccgtttaa	accgctgat	cagcctcgac	tgtgccttct	anttgcagc	420
catctgttgt	ttgcccctcc	cccgtgtgct	tccttgacct	tggaaagtgc	cactcccact	480
gtccttttct	aantaaaaat					499

<210> 74

<211> 537

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(537)

<223> n = A,T,C or G

<400> 74

tttcatagga	gaacacactg	aggagatact	tgaagaattt	ggattcagcc	gcgaagagat	60
ttatcagctt	aactcagata	aatcattga	aagtaataag	gtaaaagcta	gtctctaact	120
tccaggccca	cggctcaagt	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggaggaacag	tattacagtg	tcctaccact	ctaatacaaga	240
aaagaattac	agactctgat	tctacagtga	tgattgaatt	ctaaaaatgg	taatcattag	300
ggcttttgat	ttataanact	ttgggtactt	atactaaatt	atggtagtta	tactgccttc	360
cagtttgctt	gatataattg	ttgatattaa	gattcttgac	ttatattttg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaga	catcgatata	catttattta	cactcttgat	480
tctacaatgt	agaaaatgaa	ggaaatgccc	caaattgtat	ggtgataaaa	gtcccgct	537

<210> 75

<211> 467

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(467)
 <223> n = A,T,C or G

<400> 75
 caaanacaat tgttcaaaag atgcaaatga tacactactg ctgcagctca caaacacctc 60
 tgcataattac acgtacctcc tectgtcct caagtagtgt ggtctatatt gccatcatca 120
 cctgctgtct gcttagaaga acggctttct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggccatctt ttcctcatcg gttattgtcc ctagaagcgt cttctgagga 240
 tctagtggg ctttctttct gggtttgggc catttcantt ctcagtgtgt tactattcta 300
 tcattattgt ataacggttt tcaaaccngt gggcacncag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggg gatctccagc accaaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc cgctgctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(400)
 <223> n = A,T,C or G

<400> 76
 aagctgacag cattcgggcc gagatgtctc gctccgtggc cttagctgtg ctgcgcgtac 60
 tctctctttc tggcctggag gctatccagc gtactccaaa gattcagggt tactcacgtc 120
 atccagcaga gaatggaaag tcaaatttcc tgaattgcta tgtgtctggg ttcatccat 180
 ccgacattga agttgactta ctgaagaatg gagagagaat tgaaaaagt gagcattcag 240
 acttgtcttt cagcaaggac tggctcttct atctcttgta ctacactgaa ttcaccccca 300
 ctgaaaaaga tgagtatgcc tgccgtgtga accatgtgac tttgtcacag cccaagatng 360
 ttnagtggga teganacatg taagcagcan catgggagggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcccggctg tgattgtctc 120
 caggcactgt tcatctcagc ttttctgtcc ctttgctccc ggcaagcgt tctgctgaaa 180
 gttcatattc ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa 240
 aaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag tgtggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcacccagac cccgccctgc ccgtgcccac cgctgctgct aacgacagta tgatgcttac 120
 tctgtacttc ggaaactatt tttatgtaat taatgtatgc tttcttgttt ataatgcct 180
 gatttaaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

<400> 79
 tccttttgtt aggtttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg 60
 tttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttatt 120
 cctctttctt ctgaagatta atgaagttga aaattgaggt ggataaatac aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt 240
 atgcaagtta gtaattactc aggggttaact aaattacttt aatatgctgt tgaacctact 300
 ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatattcta tgttctaaaa gttgggctat acataaanta tnaagaaata tgggaatttta 420
 ttcccaggaa tatgggggttc atttatgaat antaccggg anagaagttt tgantnaaac 480
 cngttttggt taatacgta atatgtcctn aatnaacaag gcntgactta tttccaaaaa 540
 aaaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tattttcaga 60
 ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct 120
 cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggccctgttt 180
 gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta 240
 aggttaaact ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac 300
 tcttctaagt cctcttccag cctcactttg agtcctcctt ggggggttgat aggaantntc 360
 tcttggtttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gcntaaaaat 420
 gctgaaaaaa ttaaaatggt ctggtttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 81
 ttttttttg tatgcntcn ctgtgngtt attgttgctg ccaccctgga ggagcccagt 60
 ttctctgta tctttctttt ctgggggagc ttcttggtc tgccctcca ttcccagct 120
 ctcataccca tcttgactt ttgctagggg tggaggcgct ttctggtag cccctcagag 180
 actcagtcag cgggaataag tcctaggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)... (383)
 <223> n = A,T,C or G

<400> 82
 aggcgggagc agaagctaaa gccaaagccc aagaagagtgc gcagtgccag cactgggtgcc 60
 agtaccagta ccaataacat gccagtgccca gtgccagcac cagtgggtggc ttcagtgtctg 120
 gtgccagcct gaccgccact ctcacatttg ggctcttcgc tggccttggg ggagctgggtg 180
 ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtgagat tttagatatt 240
 gttaatcctg ccagtctttc tcttcaagcc aggggtgcac ctcagaaacc tactcaacac 300
 agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
 ccatttcaaa aaaaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)... (494)
 <223> n = A,T,C or G

<400> 83
 accgaattgg gaccgctggc ttataagcga tcatgtcctc cagtattacc tcaacgagca 60
 gggagatcga gtctatacgc tgaagaaatt tgacccgatg ggacaacaga cctgtctcagc 120
 ccacctctgct cggttctccc cagatgacaa atactctcga caccgaatca ccatcaagaa 180
 acgcttcaag gtgtcatga ccagcaacc gcgccctgtc ctctgagggt ccttaaactg 240
 atgtcttttc tgccacctgt taccctctcg agactccgta accaaactct tgggactgtg 300
 agccctgatg cctttttgcc agccatactc tttggcntcc agtctctcgt ggcgattgat 360
 tatgcttgtg tgaggcaatc atggtggcat caccatnaa gggaacacat ttganttttt 420
 tttcncatat tttaaattac naccagaata ntccagaata aatgaattga aaaactctta 480
 aaaaaaaaaa aaaa 494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)... (380)
 <223> n = A,T,C or G

<400> 84
 gctggtagcc tatggcgtgg ccacggangg gctcctgagg cacgggacag tgacttccca 60
 agtatcctgc gccgcgtctt ctaccgtccc tacctgcaga tcttcgggca gattccccag 120
 gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggcttctgg 180
 gcacaccctc ctggggccca ggcgggcacc tgcgtctccc agtatgccaa ctggctgggtg 240
 gtgctgctcc tcgtcatctt cctgctcgtg gccaacatcc tgctgggtcac ttgctcattg 300
 ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcgttnccg cctcatccgg 380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (481)
 <223> n = A,T,C or G

<400> 85
 gagttagctc ctccacaacc ttgatgaggt cgtctgcagt ggcctctcgc ttcataaccgc 60
 tnccatcgtc atactgtagg ttgcccacca cctcctgcat cttggggcgg ctaatatcca 120
 ggaaactctc aatcaagtca ccgtcnatna aacctgtggc tggttctgtc ttccgctcgg 180
 tgtgaaagga tctccagaag gagtgtctga tcttccccac acttttgatg actttattga 240
 gtcgattctg catgtccagc aggaggttgt accagctctc tgacagttag gtcaccagcc 300
 ctatcatgcc nttgaacgtg ccgaagaaca ccgagccttg tgtggggggg gnagtctcac 360
 ccagattctg cattaccaga nagccgtggc aaaaganatt gacaactcgc ccaggngaa 420
 aaagaacacc tcttggaagt gctngccgct cctcgteent tgggtggnngc gcntnccttt 480
 t 481

<210> 86
 <211> 472
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (472)
 <223> n = A,T,C or G

<400> 86
 aacatcttcc tgtataatgc tgtgtaatat cgatccgatn ttgtctgctg agaattcatt 60
 acttggaana gcaacttnaa gcctggacac tggattataa attcacaata tgcaacactt 120
 taaacagtgt gtcaatctgc tcccttactt tgatcatcacc agtctgggaa taagggtatg 180
 ccctattcac acctgttaaa agggcgctaa gcatttttga ttcaacatct ttttttttga 240
 cacaagtccg aaaaaagcaa agtaaacag ttnttaattt gtttagccaat tcactttctt 300
 catgggacag agccatttga tttaaaaagc aaattgcata atattgagct ttggggagctg 360
 atatntgagc ggaagantag cctttctact tcaccagaca caactccttt catattggga 420
 tgttnacnaa agttatgtct cttacagatg ggatgctttt gtggcaattc tg 472

<210> 87
 <211> 413
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (413)
 <223> n = A,T,C or G

<400> 87
 agaaaccagt atctctnaaa acaacctctc ataccttggtg gacctaatTT tgtgtgcgtg 60
 tgtgtgtgcg cgcataattat atagacaggc acatcttttt tacttttTga aaagcttatg 120
 cctctttTgt atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct 180
 ttgtcttctg tgtaaattgt actagagaaa acacctatnt tatgagtcaa tctagttngt 240
 tttattcgac atgaaggaaa tttccagatn acaacactna caaactctcc cttgactagg 300

ggggacaaaag aaaagcanaa ctgaacatna gaaacaattn cctgggtgaga aattncataa 360
acagaaattg ggtngtatat tgaaanannng catcattnaa acgttttttt ttt 413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(448)

<223> n = A,T,C or G

<400> 88

cgcagcgggt	cctctctatc	tagctccagc	ctctcgccctg	ccccactccc	cgcgctccgc	60
gtcctagccn	accatggccg	ggccccctgcg	cgccccgctg	ctcctgctgg	ccatcctggc	120
cgtggccctg	gccgtgagcc	ccgcggcccg	ctccagtcgc	ggcaagccgc	cgcgccctggt	180
gggaggccca	tggaccccg	gtggaagaag	aagggtgtgcg	gcgtgcactg	gactttgccg	240
tcggcnanta	caacaaaccc	gcaacnactt	ttaccnagcn	cgcgctgcag	gttgtgccgc	300
cccaancaa	ttgttactng	gggtaantaa	ttcttggaag	ttgaacctgg	gccaaaacnng	360
tttaccagaa	ccnagccaat	tngaacaatt	ncccccccat	aacagccccc	tttaaaaagg	420
gaancantcc	tgntcttttc	caaatttt				448

<210> 89

<211> 463

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattggggc	aggatgcttt	gagttttatca	60
gtagtgattc	tgccaaagtt	ggtgttgtaa	catgagtatg	taaaatgtca	aaaaattagc	120
agaggtctag	gtctgcatat	cagcagacag	tttgtccgtg	tattttgtag	ccttgaagtt	180
ctcagtgaca	agttntttct	gatgcgaagt	tctnatteca	gtgttttagt	cctttgcac	240
tttnatgtn	agacttgcc	ctntnaaatt	gcttttgtnt	tctgcaggta	ctatctgtgg	300
tttaacaaaa	tagaannact	tctctgcttn	gaanatttga	atatcttaca	tctnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ttggganaat	ttgaaaaang	gntccttcnn	420
aattcnnana	anttcagntn	tcatacaaca	naacngganc	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattgaa	ggtctntnt	actgtcggac	tgttcancca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtaa	gcntnttaac	ccagactgta	tcttcataaa	tagaacaat	120
tcttcaccag	tcacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcac	tggtaaagtc	ttaagttttg	tagaaaggaa	tttaattgct	240

cgttctcttaa	caatgtcctc	tccttgaagt	atttggtga	acaacccacc	tnaagtcct	300
ttgtgcatcc	attttaaata	tacttaatag	ggcattggtn	cactagggtta	aattctgcaa	360
gagtcacctg	tctgcaaaag	ttgcgttagt	atatctgcca			400

<210> 91
 <211> 480
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (480)
 <223> n = A,T,C or G

<400> 91						
gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
gggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctctttt	gactaccgtg	tgccagtgtc	gggtgattctc	acacacctcc	nnccgctctt	180
tgtggaaaaa	ctggcacttg	nctggaacta	gcaagacatc	acttacaaat	tcaccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcattgctt	tttgtccctc	cggcaccagt	300
tgtcaatact	aacccgctgg	tttgccctcca	tcacatttgt	gatctgtagc	tctggataca	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	gggtgcctgtt	420
ngatcagggt	cccatttccc	agtccgaatg	ttcacatggc	atatnttact	tcccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (477)
 <223> n = A,T,C or G

<400> 92						
atacagccca	natcccacca	cgaagatgcy	cttgttgact	gagaacctga	tgccgtcact	60
gggtcccgtg	tagccccagc	gactctccac	ctgctggaag	cgggtgatgc	tgactcctt	120
cccacgcagg	cagcagcggg	gccgggtcaat	gaactccact	cgtggcttgg	gggtgacggt	180
taantgcagg	aagaggctga	ccacctcgcy	gtccaccagg	atgcccgact	gtgcgggacc	240
tgacgcgaaa	ctcctcgatg	gtcatgagcy	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgttctct	ggcgtcacct	gcagctgctg	ccgctnacac	tcggcctcgg	360
accagcggac	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcgcgctcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tcgggtgaanc	ctccgcgggt	aatggcg	477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (377)
 <223> n = A,T,C or G

<400> 93						
gaacggctgg	accttgctc	gcattgtgct	gtgggcagga	ataccttggc	aagcagctcc	60
agtccgagca	gccccagacc	gctgcgcgcc	gaagctaagc	ctgcctctgg	ccttcccctc	120
cgcctcaatg	cagaaccant	agtgggagca	ctgtgttttag	agttaagagt	gaacactgtg	180

```

tgattttact tgggaatttc ctctgttata tagcttttcc caatgctaata ttccaaacaa 240
caacaacaaa ataacatggt tgcctgttna gttgtataaa agtangtgat tctgtatnta 300
aagaaaatat tactgttaca tatactgctt gcaanttctg tatttattgg tncctctggaa 360
ataaatatat tattaata 377

```

```

<210> 94
<211> 495
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(495)
<223> n = A,T,C or G

```

```

<400> 94
ccctttgagg ggtaggggtc cagttcccag tgggaagaaac aggccaggag aantgcgtgc 60
cgagctgang cagatttccc acagtgacct cagagccctg ggctatagtc tctgacctct 120
ccaaggaaag accaccttct ggggacatgg gctggagggc aggacctaga ggcaccaagg 180
gaaggcccca ttccggggct gttccccgag gaggaaggga aggggctctg tgtgcccccc 240
acgaggaana ggccctgant cctgggatca nacacctctt cacgtgtatc cccacacaaa 300
tgcaagctca ccaagggtccc ctctcagtc ctccctaca ccctgaacgg nactggccc 360
acaccacccc agancancca cccgccatgg ggaatgtncct caagggaatcg cngggcaacg 420
tggactctng tcccnnaagg gggcagaatc tccaatagan gganngaacc cttgctnana 480
aaaaaaaaana aaaaa 495

```

```

<210> 95
<211> 472
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

```

```

<400> 95
ggttacttgg ttctattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc 60
cctctggaag ccttgcgag agcggacttt gtaattgttg gagaataact gctgaatttt 120
tagctgtttt gagttgattc gcaccactgc accacaactc aatatgaaaa ctatttnact 180
tatttattat cttgtgaaaa gtatacaatg aaaattttgt tcatactgta ttatcaagt 240
atgatgaaaa gcaatagata tatattcttt tattatgtnn aattatgatt gccattatta 300
atcggaacaaa tgtggagtgt atgttctttt cacagtaata tatgcctttt gtaacttcac 360
ttggttattt tattgtaaat gaattacaaa attcttaatt taagaaaatg gtangttata 420
tttanttcan taatttcttt ccttggtttac gttaattttg aaaagaatgc at 472

```

```

<210> 96
<211> 476
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(476)
<223> n = A,T,C or G

```

```

<400> 96
ctgaagcatt tcttcaaact tntctacttt tgtcattgat acctgtagta agttgacaat 60

```

gtggtgaaat	ttcaaaatta	tatgtaactt	ctactagttt	tactttctcc	cccaagtctt	120
ttttaactca	tgattttttac	acacacaatc	cagaacttat	tatatagcct	ctaagtcttt	180
attcttcaca	gtagatgatg	aaagagtcct	ccagtgtctt	gngcanaatg	ttctagntat	240
agctggatac	atacngtggg	agttctataa	actcatacct	cagtgggact	naaccaaaat	300
tgtgttagtc	tcaattccta	ccacactgag	ggagcctccc	aaatcactat	attcttatct	360
gcaggtaactc	ctccagaaaa	acngacaggg	caggcttgca	tgaaaaagtn	acatctgcgt	420
tacaaagtct	atcttctctca	nangtctgtn	aaggaacaat	ttaatcttct	agcttt	476

<210> 97

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 97

actctttcta	atgctgatat	gatcttgagt	ataagaatgc	atatgtcact	agaatggata	60
aaataatgct	gcaaaactta	tgttcttatg	caaaatggaa	cgctaataa	acacagctta	120
caatcgcaaa	tcaaaactca	caagtgtctca	tctgtttag	atttagtgta	ataagactta	180
gattgtgctc	cttcggatat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaaat	240
caggctacta	gaattctggt	attggatatn	tgagagcatg	aaatttttaa	naatacactt	300
gtgattatna	aattaatcac	aaatttctact	tatacctgct	atcagcagct	agaaaaacat	360
ntnnttttta	natcaaagta	ttttgtgttt	ggaantgtnn	aatgaaatc	tgaatgtggg	420
ttcnatctta	ttttttcccn	gacnactant	tnctttttta	gggnctatcc	tgancatc	479

<210> 98

<211> 461

<212> DNA

<213> Homo sapien

<400> 98

agtgacttgt	cctccaacaa	aacccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagttcc	tgatcatctat	tcgctactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgattcag	tttctctctac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaat	300
ttacctggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtgcccgc	cgtttatgaa	ctgaccaccc	420
tttggataaa	tcttgacgct	cctgaacttg	ctcctctgcg	a		461

<210> 99

<211> 171

<212> DNA

<213> Homo sapien

<400> 99

gtggccgcgc	gcagggtgttt	cctcgtaccg	cagggccccc	tcccttcccc	aggcgtccct	60
cggcgccctct	gcggggccga	ggaggagcgg	ctggcgggtg	gggggagtg	gacccaccct	120
cggtgagaaa	agccttctct	agcgatctga	gaggcgtgcc	ttgggggtac	c	171

<210> 100

<211> 269

<212> DNA

<213> Homo sapien

<400> 100

cgccgcgcaag	tgcaactcca	gctggggccg	tgccggacgaa	gattctgcca	gcagttggtc	60
cgactgcgac	gacggcggcg	gcgacagtcg	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccgtt	gaagcgggag	gcctcgggga	gcccctcggg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggccgcc				269

<210> 101

<211> 405

<212> DNA

<213> Homo sapien

<400> 101

tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttatttttgca	60
gctagcaagg	taacagggta	gggcatgggt	acatgttcag	gtcaacttcc	tttgcgtgg	120
ttgattgggt	tgtctttatg	ggggcggggg	ggggtagggg	aaacgaagca	aataacatgg	180
agtgggtgca	ccctccctgt	agaacctggt	tacaaagctt	ggggcagttc	acctgggtctg	240
tgaccgtcat	tttcttgaca	tcaatgttat	tagaagtcag	gatatctttt	agagagtcca	300
ctgtttctgga	gggagattag	ggtttcttgc	caaattccaac	aaaatccact	gaaaaagtgtg	360
gatgatcagt	acgaataccg	aggcatattc	tcatatcggt	ggcca		405

<210> 102

<211> 470

<212> DNA

<213> Homo sapien

<400> 102

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
ggcacttaat	ccatttttat	ttcaaaatgt	ctacaaattt	aatcccatta	tacgggtattt	120
tcaaaatcta	aattattcaa	attagccaaa	tccttaccaa	ataataccca	aaaatcaaaa	180
atatacttct	ttcagcaaac	ttgttacata	aattaaaaaa	atatatacgg	ctgggtgtttt	240
caaagtatac	ttatcttaac	actgcaaaca	ttttaaggaa	ctaaaataaa	aaaaaacact	300
ccgcaaagggt	taaagggaac	aacaaattct	tttacaacac	cattataaaa	atcatatctc	360
aaatcttagg	ggaatatata	cttcacacgg	gatcttaact	tttactcact	ttgtttattt	420
ttttaaacca	ttgtttgggc	ccaacacaat	ggaatccccc	ctggactagt		470

<210> 103

<211> 581

<212> DNA

<213> Homo sapien

<400> 103

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttatttttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaattc	ttccattttt	tcctatttcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaca	ggaagagaaa	tggcacacaa	aacaaacatt	ttatattcat	atttctacct	420
acgttaataa	aatagcattt	tgtgaagcca	gctcaaaaga	aggcttagat	ccttttatgt	480
ccatttttagt	cactaaacga	tatcaaagtg	ccagaatgca	aaaggtttgt	gaacatttat	540
tcaaaagcta	atataagata	tttcacatac	tcattctttct	g		581

<210> 104

<211> 578

<212> DNA

<213> Homo sapien

<400> 104
 tttttttttt tttttttttt ttttttctctt cttttttttt gaaatgagga tctgagttttt 60
 cactctcttag atagggcatg aagaaaactc atctttccag ctttaaaata acaatcaaatt 120
 ctcttatgct atatcatatt ttaagttaaa ctaatgagtc actggcttat cttctcctga 180
 aggaaatctg ttcattcttc tcattcatat agttatatca agtactacct tgcataattga 240
 gaggtttttt ttctctatatt acacatatat ttccatgtga atttgtatca aacctttatt 300
 ttcatgcaaa ctagaaaata atgtttcttt tgcataagag aagagaacaa tatagcatta 360
 caaaactgct caaattgttt gttaagttat ccattataat tagttggcag gagctaatac 420
 aaatcacatt tacgacagca ataataaaac tgaagtacca gttaaatatc caaaataatt 480
 aaaggaacat ttttagcctg ggtataatta gctaattcac tttacaagca tttattagaa 540
 tgaattcaca tgttattatt cctagcccaa cacaatgg 578

<210> 105
 <211> 538
 <212> DNA
 <213> Homo sapien

<400> 105
 tttttttttt tttttcagta ataatcagaa caatattttat ttttatattt aaaattcata 60
 gaaaagtgcc ttacatttaa taaaagtttg tttctcaaag tgatcagagg aattagatat 120
 gtcttgaaca ccaatattaa tttgaggaaa atacacccaaa atacattaag taaattattt 180
 aagatcatag agcttgtaag tgaaaagata aaatttgacc tcagaaactc tgagcattaa 240
 aaatccacta ttagcaaata aattactatg gacttcttgc ttttaattttg tgatgaatat 300
 ggggtgtcac tggtaaacca acacattctg aaggatacat tacttagtga tagattctta 360
 tgtactttgc taatacgtgg atatgagttg acaagtttct ctttcttcaa tcttttaagg 420
 ggcgagaaat gaggaagaaa agaaaaggat tacgcatact gttctttcta tgggaaggatt 480
 agatatgttt cttttgcaa tattaataaaa ataataatgt ttactactag tgaaacct 538

<210> 106
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 106
 tttttttttt ttttttagtc aagtttctat ttttattata attaaagtct tggtcatttc 60
 atttattagc tctgcaactt acatatttaa attaaagaaa cgtttttagac aactgtacaa 120
 tttataaatg taagggtgcc ttattgagta atatattcct ccaagagtgg atgtgtccct 180
 tctcccacca actaatgaac agcaacatta gtttaatttt attagtagat atacactgct 240
 gcaaagccta attctcttct ccattcccat gtgatattgt gtatatgtgt gagttggtag 300
 aatgcatcac aatctacaat caacagcaag atgaagctag gctgggcttt cggtgaaaat 360
 agactgtgtc tgtctgaatc aaatgatctg acctatcctc ggtggcaaga actcttcgaa 420
 ccgttctctc aaaggcgctg ccacatttgt ggctctttgc acttgtttca aaa 473

<210> 107
 <211> 1621
 <212> DNA
 <213> Homo sapien

<400> 107
 cgccatggca ctgcagggca tctcggtcat ggagctgtcc ggcttgccc cgggcccgtt 60
 ctgtgctatg gtccgtgctg acttcggggc gcgtgtggta cgctgggacc ggcccggctc 120
 ccgtacgac gtgagccgct tgggcccggg caagcgctcg ctagtgtggt acctgaagca 180
 gccgcgggga gccgcggtgc tgcggcgctc gtgcaagcgg tcggtatgtc tgcgtgagcc 240
 tctccgccc ggtgtcatgg agaaaactcca gctgggccc gagattctgc agcgggaaaa 300
 tccaaggctt atttatgcca ggctgagtggt atttggccag tcaggaagct tctgccggtt 360
 agctggccac gatatacaat atttggcttt gtcagggtgt ctctcaaaaa ttggcagaag 420
 tgggtgagaat ccgtatgccc cgctgaatct cctggctgac tttgctggtg gtggccttat 480
 gtgtgcactg ggcattataa tggctctttt tgaccgcaca cgactgaca agggtcagggt 540


```

cattgatgca aatatggtgg aaggaacagc atattttaagt tcttttctgt ggaaaactca      600
gaaatcgagt ctgtgggaag cacctcgagg acagaacatg ttggatggtg gagcaccttt      660
ctatacgact tacaggacag cagatgggga attcatggct gttggagcaa tagaacccca      720
gttctacgag ctgctgatca aaggacttgg actaaagtct gatgaacttc ccaatcagat      780
gagcatggat gattggccag aaatgaagaa gaagtttgca gatgtatttg caaagaagac      840
gaaggcagag tgggtgtcaaa tctttgacgg cacagatgcc tgtgtgactc cggttctgac      900
ttttgaggag gttgttcata atgatcacia caaggaacgg ggctcgttta tcaccagtga      960
ggagcaggac gtgagccccc gccctgcacc tctgctgtta aacaccccag ccatcccttc     1020
tttcaaaagg gatcctttca taggagaaca cactgaggag atacttgaag aatttggatt     1080
cagccgcgaa gagatttata agcttaactc agataaaatc attgaaagta ataaggtaaa     1140
agctagtctc taacttccag gccacgggct caagtgaatt tgaatactgc atttacagtg     1200
tagagtaaca cataacattg tatgcatgga aacatggagg aacagtatta cagtgtccta     1260
ccactctaata caagaaaaga attacagact ctgattctac agtgatgatt gaattctaaa     1320
aatgggttata attagggctt ttgatttata aaactttggg tacttatact aaattatggg     1380
agttattctg ccttccagtt tgcttgatat atttggtgat attaagattc ttgacttata     1440
ttttgaatgg gttctagtga aaaaggaatg atatattctt gaagacatcg atatacatct     1500
atttactctc ttgattctac aatgtagaaa atgaggaaaat gccacaaaatt gtatggtgat     1560
aaaagt.cacg tgaacaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa     1620
a                                                                                   1621

```

<210> 108
 <211> 382
 <212> PRT
 <213> Homo. sapien

```

<400> 108
Met Ala Leu Gln Gly Ile Ser Val Met Glu Leu Ser Gly Leu Ala Pro
 1          5          10          15
Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
 20          25          30
Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
 35          40          45
Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
 50          55          60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
 65          70          75          80
Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85          90          95
Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
100          105          110
Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115          120          125
Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
130          135          140
Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
145          150          155          160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165          170          175
Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180          185          190
Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
195          200          205
Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210          215          220
Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
225          230          235          240
Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245          250          255

```

Asn	Gln	Met	Ser	Met	Asp	Asp	Trp	Pro	Glu	Met	Lys	Lys	Lys	Phe	Ala
		260						265					270		
Asp	Val	Phe	Ala	Lys	Lys	Thr	Lys	Ala	Glu	Trp	Cys	Gln	Ile	Phe	Asp
	275						280					285			
Gly	Thr	Asp	Ala	Cys	Val	Thr	Pro	Val	Leu	Thr	Phe	Glu	Glu	Val	Val
	290					295					300				
His	His	Asp	His	Asn	Lys	Glu	Arg	Gly	Ser	Phe	Ile	Thr	Ser	Glu	Glu
305					310				315					320	
Gln	Asp	Val	Ser	Pro	Arg	Pro	Ala	Pro	Leu	Leu	Leu	Asn	Thr	Pro	Ala
			325					330						335	
Ile	Pro	Ser	Phe	Lys	Arg	Asp	Pro	Phe	Ile	Gly	Glu	His	Thr	Glu	Glu
			340					345					350		
Ile	Leu	Glu	Glu	Phe	Gly	Phe	Ser	Arg	Glu	Glu	Ile	Tyr	Gln	Leu	Asn
	355					360					365				
Ser	Asp	Lys	Ile	Ile	Glu	Ser	Asn	Lys	Val	Lys	Ala	Ser	Leu		
	370					375					380				

<210> 109
 <211> 1524
 <212> DNA
 <213> Homo sapien

<400> 109

ggcacgaggg	tgcgccaggg	cctgagcggg	ggcggggggca	gcctcgccag	cgggggggccc	60
gggcctggcc	atgcctcact	gagccagcgc	ctgcgcctct	acctcgccga	cagctggaac	120
cagtgcgacc	tagtggtctt	cacctgcttc	ctcctgggcg	tgggctgccg	gctgaccccg	180
ggtttgtacc	acctggggcg	cactgtcttc	tgcctcgact	tcattggtttt	cacggtgcgg	240
ctgcttcaca	tcttcacggt	caacaaacag	ctggggccca	agatcgtcac	cgtgagcaag	300
atgatgaagg	acgtgttctt	cttcctcttc	ttcctcgggc	tgtggtcggg	agcctatggc	360
gtggccacgg	aggggctcct	gaggccacgg	gacagtgcct	tcccaagtat	cctgcgccgc	420
gtcttctacc	gtccctacct	gcagatcttc	gggcagattc	cccaggagga	catggacgtg	480
gcccctatgg	agcacagcaa	ctgctcgtcg	gagcccggtc	tctgggcaca	ccctcctggg	540
gcccaggcgg	gcacctgcgt	ctcccagtat	gccaactggc	tgggtggtgct	gctcctcgtc	600
atcttctctg	tcgtggccaa	catcctgctg	gtcaacttgc	tcattgccat	gttcagttac	660
acattcggca	aagtacaggg	caacagcgat	ctctactgga	aggcgcagcg	ttaccgcctc	720
atccgggaat	tccactctcg	gcccgcgctg	gcccgcctct	ttatcgtcac	ctcccacttg	780
cgccctcctg	tcaggcaatt	gtgcaggcga	ccccggagcc	cccagccgtc	ctccccggcc	840
ctcgagcatt	tccgggttta	cctttctaa	gaagccgagc	ggaagctgct	aacgtgggaa	900
tcgggtgcata	aggagaactt	tctgctggca	cgcgtatagg	acaagcggga	gagcgactcc	960
gagcgtctga	agcgacgctc	ccagaagggt	gacttggcac	tgaaacagct	gggacacatc	1020
cgcgagtagc	aacagcgctc	gaaagtgtcg	gagcgggagg	tccagcagtg	tagccgcgtc	1080
ctgggggtggg	tggccgaggg	cctgagccgc	tctgccttgc	tgcccccagg	tgggcccgca	1140
ccccctgacc	tgcttgggtc	caaagactga	gccctgctgg	cggacttcaa	ggagaagccc	1200
ccacagggga	ttttgctcct	agagtaaggc	tcatctgggc	ctcgcccccc	gcacctgggtg	1260
gccttgctcct	tgaggtgagc	cccatgtcca	tctggggccac	tgtcaggacc	acctttggga	1320
gtgtcatcct	tacaaaccac	agcatgcccc	gtcctcctcc	gaaccagtcc	cagcctggga	1380
ggatcaaggc	ctggatcccc	ggccgttatc	catctggagg	ctgcagggtc	cttggggtaa	1440
cagggaccac	agaccctcca	ccactcacag	attcctcaca	ctgggggaaat	aaagccattt	1500
cagaggaaaa	aaaaaaaaaa	aaaa				1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110

gggaaccagc	ctgcacgcgc	tggctccggg	tgacagccgc	ggcctcgccg	caggatctga	60
gtgatgagac	gtgtccccac	tgaggtgccc	cacagcagca	ggtgttgagc	atgggctgag	120

aagctggacc	ggcaccaaag	ggctggcaga	aatggggcgc	tggctgattc	ctaggcagtt	180
ggcggcagca	aggaggagag	gccgcagctt	ctggagcaga	gccgagacga	agcagttctg	240
gagtgccctga	acggccccct	gagccctacc	cgccctggccc	actatggctc	agaggctgtg	300
ggtgagccgc	ctgctgcggc	accggaaagc	ccagctcttg	ctggtcaacc	tgctaaccct	360
tggcctggag	gtgtgttttg	ccgcaggcat	cacctatgtg	ccgcctctgc	tgctggaagt	420
gggggtagag	gagaagttca	tgaccatggt	gctgggcatt	ggtccagtgc	tgggectggt	480
ctgtgtcccc	ctcctaggct	cagccagtga	ccactggcgt	ggacgctatg	gccgccgccg	540
gcccttcctc	tgggcactgt	ccttgggcat	cctgctgagc	ctctttctca	tcccaagggc	600
cggctggcta	gcagggtctg	tgtgcccggg	tcccaggccc	ctggagctgg	cactgctcat	660
cctgggctgt	gggctgctgg	acttctgtgg	ccagggtgtg	ttcactccac	tggaggccct	720
gctctctgac	ctcttcgggg	accgggacca	ctgtcgccag	gcctactctg	tctatgcctt	780
catgatcagt	cttgggggct	gcctgggcta	cctcctgctt	gccattgact	gggaccacag	840
tgccctggcc	ccctacctgg	gcacccagga	ggagtgcctc	tttggcctgc	tcaccctcat	900
cttcctcacc	tgcgtagcag	ccacactgct	ggtggctgag	gaggcagcgc	tgggccccac	960
cgagccagca	gaagggtgtg	cggccccctc	cttgtcgccc	cactgctgtc	catgccgggc	1020
ccgcttggtt	ttccggaacc	tgggcgcctt	gcttcccccg	ctgcaccagc	tgtgctgccg	1080
catgccccgc	accctgcgcc	ggctcttcgt	ggctgagctg	tgcagctgga	tggcactcat	1140
gaccttcacg	ctgttttaca	cggatttcgt	gggcgagggg	ctgtaccagg	gcgtgccccag	1200
agctgagccg	ggcaccgagg	cccggagaca	ctatgatgaa	ggcgttcgga	tgggcagcct	1260
ggggctgttc	ctgcagtgcg	ccatctccct	ggtcttctct	ctggtcattg	accgtctggt	1320
gcagcgattc	ggcactcgag	cagtctatct	ggccagtgtg	gcagctttcc	ctgtggtctg	1380
cgggtgccaca	tgcctgtccc	acagtgtggc	cgtggtgaca	gcttcagccg	ccctcaccgg	1440
gttcaccttc	tcagccctgc	agatcctgcc	ctacacactg	gcctccctct	accaccggga	1500
gaagcaggtg	ttcctgcccc	aataccgagg	ggacactgga	ggtgctagca	gtgaggacag	1560
cctgatgacc	agcttcctgc	caggccctaa	gcctggagct	cccttcccta	atggacacgt	1620
gggtgctgga	ggcagtggcc	tgtcccacc	tccaccgcgc	ctctgcgggg	cctctgcctg	1680
tgatgtctcc	gtacgtgtgg	tgtgtgggtg	gcccaccgag	gccagggtgg	ttccggggccg	1740
gggcattctgc	ctggacctcg	ccatcctgga	tagtgccctc	ctgctgtccc	aggtggcccc	1800
atccctgttt	atgggtctca	ttgtccagct	cagccagtct	gtcactgctt	atatggtgtc	1860
tgccgcaggc	ctgggtctgg	tgcctattta	ctttgtctca	caggtagtat	ttgacaagag	1920
cgacttggcc	aaatactcag	cgtagaaaac	ttccagcaca	ttgggggtgga	gggctgcctt	1980
cactgggtcc	cagctccccg	ctcctgttag	ccccatgggg	ctgccgggct	ggccgccagt	2040
ttctgttgct	gccaaagtaa	tgtggctctc	tgttgccacc	ctgtgctgct	gaggtgcgta	2100
gctgcacagc	tgggggctgg	ggcgctccct	tctctctctc	ccagtctcta	gggctgcctg	2160
actggaggcc	ttccaagggg	gtttcagtct	ggacttatac	agggaggcca	gaagggtcc	2220
atgcactgga	atgcggggac	tctgcagggt	gattaccag	gctcagggtt	aacagctagc	2280
ctcctagtgt	agacacacct	agagaagggt	ttttggggag	tgaataaact	cagtcacctg	2340
gtttcccatc	tctaagcccc	ttaacctgca	gcttcgttta	atgtagctct	tgcattgggag	2400
ttcttaggat	gaaacactcc	tccatgggat	ttgaacatat	gacttatttg	taggggaaga	2460
gtcctgaggg	gcaacacaca	agaaccaggt	ccctcagcc	cacagcactg	tctttttgct	2520
gatccacccc	cctcttacct	tttatcagga	tgtggcctgt	tggtccttct	gttgccatca	2580
cagagacaca	ggcattttaa	tatttaactt	atttatttaa	caaagtagaa	gggaatccat	2640
tgctagcttt	tctgtgttgg	tgtctaatat	ttgggtaggg	tgggggatcc	ccaacaatca	2700
ggtcccttga	gatagctggt	cattgggctg	atcattgcca	gaatcttctt	ctcctggggt	2760
ctggcccccc	aaaatgccta	accagggacc	ttggaaatcc	tactcatccc	aaatgataat	2820
tccaaatgct	gttaccacaag	gttaggggtg	tgaagggaagg	tagagggtgg	ggcttcaggt	2880
ctcaacggct	tccctaacca	cccctcttct	cttggcccag	cctgggtccc	cccacttcca	2940
ctccccctta	ctctctctag	gactgggctg	atgaaggcac	tgcccaaaat	ttccctacc	3000
cccaactttc	ccctaccccc	aactttcccc	accagctcca	caaccctgtt	tggagctact	3060
gcaggaccag	aagcacaaag	tgcggtttcc	caagcctttg	tccatctcag	ccccagagt	3120
atatctgtgc	ttggggaatc	tcacacagaa	actcaggagc	acccccgcc	tgagctaaag	3180
gaggtcttat	ctctcagggg	gggtttaagt	gccgtttgca	ataatgtcgt	cttatttatt	3240
tagcgggggtg	aatattttat	actgtaagtg	agcaatcaga	gtataatgtt	tatgggtgaca	3300
aaattaaagg	ctttcttata	tgtttaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3360
aaaaaaaaara	aaaaaaaaaa	aaaaaaaaaa	aaaaaaataa	aaaaaaaaaa		3410

<210> 111

<211> 1289

<212> DNA

<213> Homo sapien

<400> 111

```

agccaggcgt ccctctgcct gccactcag tggcaacacc cgaggagctgt tttgtccttt      60
gtggagcctc agcagttccc tctttcagaa ctactgccca agagccctga acaggagcca      120
ccatgcagtg cttcagcttc attaagacca tgatgatcct cttcaatttg ctcattcttc      180
tgtgtggtgc agccctgttg gcagtgggca tctgggtgtc aatcgatggg gcatcctttc      240
tgaagatctt cgggccactg tcgtccagtg ccatgcagtt tgtcaacgtg ggctacttcc      300
tcatcgcagc cggcgttggt gtctttgtct ttggtttccct gggctgctat ggtgctaaga      360
ctgagagcaa gtgtgccctc gtgacgttct tcttcactct cctcctcatc ttcattgtct      420
aggttgccagc tgctgtggtc gccttgggtg acaccacaat ggctgagcac ttcctgacgt      480
tgctggtagt gcctgccatc aagaaagatt atgggtccca ggaagacttc actcaagtgt      540
ggaacaccac catgaaaggg ctcaagtgtc gtggcttcac caactatacg gattttgagg      600
actcacccta cttcaaagag aacagtgcct ttccccattt ctgttgcaat gacaacgtca      660
ccaacacagc caatgaaacc tgcaccaagc aaaaggctca cgacaaaaaa gtagagggtt      720
gcttcaatca gcttttgtat gacatccgaa ctaatgcagt caccgtgggt ggtgtggaag      780
ctggaattgg gggcctcgag ctggctgccca tgattgtgtc catgtatctg tactgcaatc      840
tacaataagt ccacttctgc ctctgccact actgtgccca catgggaact gtgaagaggc      900
accctggcaa gcagcagtga ttgggggagg ggacaggatc taacaatgtc acttgggcca      960
gaatggacct gccctttctg ctccagactt ggggctagat agggaccact ccttttagcg      1020
atgcctgact ttccttccat tgggtgggtg atgggtgggg ggcattccag agcctctaag      1080
gtagccagtt ctgttgccca ttccccagct ctattaaacc cttgatatgc cccctaggcc      1140
tagtgggtgat cccagtgtct tactggggga tgagagaaag gcattttata gcctgggcac      1200
aagtgaaatc agcagagcct ctgggtggat gtgtagaagg cacttcaaaa tgcataaacc      1260
tgttacaatg ttaaaaaaaaa aaaaaaaaaa      1289

```

<210> 112

<211> 315

<212> PRT

<213> Homo sapien

<400> 112

```

Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln
 1          5          10          15
Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe
 20          25          30
Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala
 35          40          45
Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
 50          55          60
Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile Pro
 65          70          75          80
Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys Ser Ser
 85          90          95
Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala Gly Thr Cys
100          105          110
Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu Val Ile Phe
115          120          125
Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu Leu Ile Ala Met Phe
130          135          140
Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys
145          150          155          160
Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser Arg Pro Ala Leu
165          170          175
Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln
180          185          190
Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu

```

```

      195              200              205
His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr
  210              215              220
Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp
  225              230              235              240
Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val
      245              250              255
Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg
      260              265              270
Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly
      275              280              285
Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly
      290              295              300
Pro Pro Pro Pro Asp Leu Pro Gly Ser Lys Asp
  305              310              315

```

```

<210> 113
<211> 553
<212> PRT
<213> Homo sapien

```

```

      <400> 113
Met Val Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala
  1              5              10              15
Gln Leu Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu
      20              25              30
Ala Ala Gly Ile Thr Tyr Val Pro Leu Leu Leu Glu Val Gly Val
      35              40              45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
      50              55              60
Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly
      65              70              75              80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
      85              90              95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
      100              105              110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
      115              120              125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
      130              135              140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
      145              150              155              160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
      165              170              175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
      180              185              190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
      195              200              205
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly
      210              215              220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
      225              230              235              240
Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
      245              250              255
Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg
      260              265              270
Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
      275              280              285

```

Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114
 <211> 241
 <212> PRT
 <213> Homo sapien

<400> 114
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
 1 5 10 15
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val
 20 25 30
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys
 115 120 125
 Asp Tyr Gly Ser Gln Glu Asp Phe Thr Gln Val Trp Asn Thr Thr Met

130		135		140
Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp				
145		150		155
Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn				
	165		170	175
Asp Asn Val Thr Asn Thr Ala Asn Glu Thr Cys Thr Lys Gln Lys Ala				
	180		185	190
His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile				
	195	200		205
Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly				
	210	215		220
Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu				
225		230		235
Gln				240

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115
 gctctttctc tcccctcctc tgaatttaat tctttcaact tgcaatttgc aaggattaca 60
 catttcaactg tgatgtatat tgtgttgcaa aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttgtg aatccatctt gctttttccc cattggaact agtcattaac ccattctctga 180
 actggtagaa aaacatctga agagctagtc tatcagcatc tgacagggtga attggatggt 240
 tctcagaacc atttcaccca gacagcctgt ttctatcctg ttttaataaat tagtttggtg 300
 tctctacatg cataacaaac cctgctccaa tctgtcacat aaaagtctgt gacttgaagt 360
 ttagtc 366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 116
 acaaagatga accatttcct atattatagc aaaattaaaa tctaccgta ttctaattatt 60
 gagaaatgag atnaaacaca atnttataaa gtctacttag agaagatcaa gtgacctcaa 120
 agactttact attttcatat ttttaagacac atgattttatc ctatttttagt aacctgggtc 180
 atacgttaaa caaaggataa tgtgaacagc agagaggatt tgttggcaga aaatctatgt 240
 tcaatctnga actatctana tcacagacat ttctatttcct tt 282

<210> 117
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 117

```

acacatgtcg cttcactgcc ttcttagatg cttctgggtca acatanagga acagggacca      60
tatttatcct ccctcctgaa acaattgcaa aataanacaa aatatatgaa acaattgcaa      120
aataaggcaa aatatatgaa acaacagggtc tcgagatatt ggaaatcagt caatgaagga      180
tactgatecc tgatcactgt cctaattgcag gatgtgggaa acagatgagg tcacctctgt      240
gactgcccca gcttactgcc thtagagagt ttctangctg cagttcagac agggagaaat      300
tggtt                                           305

```

```

<210> 118
<211> 71
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (71)
<223> n = A,T,C or G

```

```

<400> 118
accaaggtgt ntgaatctct gacgtgggga tctctgatcc ccgcacaatc tgagtggaaa      60
aantcctggg t                                           71

```

```

<210> 119
<211> 212
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (212)
<223> n = A,T,C or G

```

```

<400> 119
actccggttg gtgtcagcag cacgtggcat tgaacatngc aatgtggagc ccaaaccaca      60
gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac      120
agtaagctgg cccttctaataaaaagaaaat tgaaagggtt ctcactaanc ggaattaant      180
aatggantca aganactccc aggcctcagc gt                                           212

```

```

<210> 120
<211> 90
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (90)
<223> n = A,T,C or G

```

```

<400> 120
actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tgggtcttgcc      60
ctccgccggc gcagaacatg ctggggtggt                                           90

```

```

<210> 121
<211> 218
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature

```


<222> (1)...(218)

<223> n = A,T,C or G

<400> 121

tgtancgtga anacgacaga nagggttgtc aaaaatggag aanccttgaa gtcattttga	60
gaataagatt tgctaaaaga tttgggggcta aaacatgggtt attgggagac atttctgaag	120
atatncangt aaattangga atgaattcat gggtcttttg ggaattcctt tacgatngcc	180
agcatanact tcatgtgggg atancagcta cccttgta	218

<210> 122

<211> 171

<212> DNA

<213> Homo sapien

<400> 122

taggggtgta tgcaactgta aggacaaaaa ttgagactca actggcttaa ccaataaagg	60
catttgtag ctcatggaac aggaagtcgg atgggtggggc atcttcagtg ctgcatgagt	120
caccaccccg gcggggtcat ctgtgccaca ggccctgtt gacagtgcgg t	171

<210> 123

<211> 76

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(76)

<223> n = A,T,C or G

<400> 123

tgtagcgtga agacnacaga atgggtgtgtg ctgtgctatc caggaacaca tttattatca	60
ttatcaanta ttgtgt	76

<210> 124

<211> 131

<212> DNA

<213> Homo sapien

<400> 124

acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt	60
caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg	120
ttaagatttg t	131

<210> 125

<211> 432

<212> DNA

<213> Homo sapien

<400> 125

actttatcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg	60
cttgaaaaag aggtgatagc tcttcagagg acttgtgact tttgctcaga tgctgaagaa	120
ctacagtctg catttggcag aatgaagat gaatttggat taaatgagga tgctgaagat	180
ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg	240
ctcttgaaagt atcagtcact tttgagaatg tttcttagtt actgcatact tcatggatcc	300
catgggtgggg gtcttgcac tgtaagaatg gaattgattt tgcttttgca agaattctcag	360
caggaaacat cagaaccact attttctagc cctctgtcag agcaaaccctc agtgcctctc	420
ctcttttgctt gt	432

<210> 126
<211> 112
<212> DNA
<213> Homo sapien

<400> 126
acacaacttg aatagtaaaa tagaaactga gctgaaatth ctaattcact ttctaaccat 60
agtaagaatg atattttcccc ccagggatca ccaaatatth ataaaaatth gt 112

<210> 127
<211> 54
<212> DNA
<213> Homo sapien

<400> 127
accacgaaac cacaacaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128
<211> 323
<212> DNA
<213> Homo sapien

<400> 128
acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc 60
acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120
ttctctctga agtctagggt acccattttg gggaccatt ataggcaata aacacagttc 180
ccaaagcatt tggacagttt cttgtttgtgt tttagaatgg ttttcctttt tcttagcctt 240
ttcctgcaaa aggtctactc agtcccttgc ttgctcagtg gactggggctc cccagggcct 300
aggctgcctt cttttccatg tcc 323

<210> 129
<211> 192
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (192)
<223> n = A,T,C or G

<400> 129
acatacatgt gtgtatatth ttaaatatca cttttgtatc actctgactt tttagcatac 60
tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatc 120
tagcacattc atctgtgata naaagatagg tgagtttcat ttccttcacg ttggccaatg 180
gataaacaac gt 192

<210> 130
<211> 362
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (362)
<223> n = A,T,C or G

<400> 130
ccctttttta tggaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca 60

tataatgacg caacaaaaag gtgctgttta gtcctatggt tcagtttatg cccctgacaa	120
gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa	180
ttctgtatcc cattttgtta acgcctggta gatgtaacct gctangaggc taactttata	240
cttattttaa agctcttatt ttgtgggtcat taaaatggca atttatgtgc agcactttat	300
tgcagcagga agcacgtgtg ggttggttgg aaagctcttt gctaataccta aaaagtaatg	360
gg	362

<210> 131

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 131

ctttttgaaa gatcgtgtcc actcctgtgg acatcttggt ttaatggagt ttcccatgca	60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga	120
gttctcccag gttcgccctg ctgctccaag tctcagcagc agcctctttt aggaggcatc	180
ttctgaacta gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atccaactaa	240
cttccatctg ttatcactgg agaaagccca gactcccccac gacnggtacg gattgtgggc	300
atanaaggat tgggtgaagc tggcgttggt gt	332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(322)

<223> n = A,T,C or G

<400> 132

acttttgcca ttttgtatat ataaacaatc ttgggacatt ctctgaaaa ctaggtgtcc	60
agtggctaag agaactcgat ttcaagcaat totgaaagga aaaccagcat gacacagaat	120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggaccttg tatctcgggt	180
tttagcaagt taaaatgaan atgacaggaa aggcttattt atcaacaaag agaagagttg	240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct aggggaagcct	300
gtaacaatct acaattgggtc ca	322

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 133

acaagccttc acaagtttaa cttaaattggg attaattctt ctgtanttat ctgcataatt	60
cttggtttttc ttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta	120
ctattttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg	180
ctattcctgt ttgtcaaag aaattatatt ttccaaaata tgtntatttg tttgatgggt	240

cccacgaaac actaataaaa accacagaga ccagcctg .

278

<210> 134
 <211> 121
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(121)
 <223> n = A,T,C or G

<400> 134
 gtttanaaaa cttgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca 60
 tgattctctg aggttaaact tggttttcaa atgttatatt tacttgatt ttgcttttgg 120
 t 121

<210> 135
 <211> 350
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(350)
 <223> n = A,T,C or G

<400> 135
 acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctataacc 60
 atancaagt gtgactgggt aagcgtgcga caaaggctcag ctggcacatt acttggtgtgc 120
 aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggactcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn cctgnaagg aactttcgtc 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgctgag 300
 ttccaagga tgcaaagcct ggtgctcaac tctggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60
 gctgtgattg tatccgaata ntccctgtga gaaaagataa tgagatgacg tgagcagcct 120
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180
 cctggcggcc agccagccag ccacaggtgg gcttcttctc tttgtggtga caacnccaag 240
 aaaactgcag agggccaggg tcaggtgtna gtgggtangt gaccataaaa caccaggtgc 300
 tcccaggaac ccgggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tnggggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60
 ggaggaagtg tgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120
 ttggctgggtc ccactggtgg tcactgtcat tgggtggggtt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138
 actcactgga atgccacatt cacaacagaa tcagaggtct gtgaaaacat taatggctcc 60
 ttaacttctc cagtaagaat cagggacttg aaatggaaac gttaacagcc acatgcccac 120
 tgctgggcag tctcccatgc cttccacagt gaaagggctt gagaaaaatc acatccaatg 180
 tcatgtgttt ccagccacac caaaaggtgc ttgggggtgga gggctggggg catananggt 240
 cangcctcag gaagcctcaa gttccattca gctttgccac tgtacattcc ccatntttaa 300
 aaaaactgat gccttttttt tttttttttg taaaattc 338

<210> 139
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 139
 gggaatcttg gtttttggca tctgggttgc ctatagccga ggccactttg acagaacaaa 60
 gaaagggact tcgagtaaga aggtgattta cagccagcct agtgcccgaa gtgaaggaga 120
 attcaaacag acctcgatcat tcctgggtgtg agcctggctg gtcaccgcc tatcatctgc 180
 atttgcttta ctcaggtgct accggactct ggcccctgat gtctgtagt tccacaggatg 240
 ccttatttgt cttctacacc ccacagggcc ccctacttct tcggatgtgt ttttaataat 300
 gtcagctatg tgccccatcc tccttcatgc cctccctccc tttectacca ctgetgagtg 360
 gcctggaact tgtttaaagt gt 382

<210> 140
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 140
 accaaaactt ctttctgttg tgttngattt tactataggg gtttngcttn ttctaaanat 60
 acttttccatt taacancttt tgtaagtgt caggctgcac tttgctccat anaattattg 120
 ttttcacatt tcaacttgta tgtgtttgtc tcttanagca ttggtgaaat cacatatttt 180
 atattcagca taaaggagaa 200

<210> 141
 <211> 335
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(335)
 <223> n = A,T,C or G

<400> 141
 actttatttt caaaacactc atatgttgca aaaaacacat agaaaaataa agtttggtgg 60
 ggggtgctgac taaacttcaa gtcacagact tttatgtgac agattggagc agggtttggt 120
 atgcatgtag agaaccctaaa ctaattttatt aaacaggata gaaacaggct gtctgggtga 180
 aatgggttctg agaaccatcc aattcacctg tcagatgctg atanactagc tcttcagatg 240
 tttttctacc agttcagaga tnggttaatg actantttcca atgggggaaaa agcaagatgg 300
 attcacaac caagtaattt taaacaaaga cactt 335

<210> 142
 <211> 459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(459)
 <223> n = A,T,C or G

<400> 142
 accagggttaa tattgccaca tatatccttt ccaattgcgg gctaaacaga cgtgtattta 60
 ggggtgtttta aagacaaccc agcttaatat caagagaaat tgtgaccttt catggagtat 120
 ctgatggaga aaacactgag ttttgacaaa tcttattttta ttcagatagc agtctgatca 180
 cacatgggtcc aacaacactc aaataataaa tcaaatatna tcagatgtta aagattgggtc 240
 ttcaaacatc atagccaatg atgccccgct tgcctataat ctctccgaca taaaaccaca 300
 tcaacacctc agtggccacc aaaccattca gcacagcttc cttaactgtg agctgtttga 360
 agctaccagt ctgagcacta ttgactatnt ttttcangct ctgaatagct ctagggatct 420
 cagcanggggt gggaggaacc agtcaacct tggcgatant 459

<210> 143
 <211> 140
 <212> DNA
 <213> Homo sapien

<400> 143
 acatttcctt ccaccaagtc aggactcctg gcttctgtgg gagttcttat cacctgaggg 60
 aaatccaaac agtctctcct agaaaggaat agtgtcacca accccaccca tctccctgag 120
 accatccgac ttcctgtgt 140

<210> 144
 <211> 164
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(164)
 <223> n = A,T,C or G

<400> 144

acttcagtaa caacatacaa taacaacatt aagtgtatat tgccatcttt gtcattttct	60
atctatacca ctctcccttc tgaaaacaan aatcactanc caatcactta tacaaatttg	120
aggcaattaa tccatatttg ttttcaataa ggaaaaaaag atgt	164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 145

acgtagacca tccaactttg tatttgtaat ggcaaacatc cagnagcaat tcctaaacaa	60
actggagggt atttataccc aattatccca ttcattaaca tgccctcttc ctcaggctat	120
gcaggacagc tatcataagt cggcccaggc atccagatac taccatttgt ataaacttca	180
gtaggggagt ccatccaagt gacaggtcta atcaaaggag gaaatggaac ataagcccag	240
tagtaaaatn ttgcttagct gaaacagcca caaaagactt accgccgtgg tgattaccat	300
caa	303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(327)

<223> n = A,T,C or G

<400> 146

actgcagctc aattagaagt ggtctctgac tttcatcanc ttctccctgg gctccatgac	60
actggcctgg agtgactcat tgctctgggt ggttgagaga gtccttttgc caacaggcct	120
ccaagtcagg gctgggattt gtttcccttc cacattctag caacaatatg ctggccactt	180
cctgaacagg gaggggtggga ggagccagca tggaacaagc tgccactttc taaagtagcc	240
agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg	300
taggggtgag ctgtgtgact ctatggt	327

<210> 147

<211> 173

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(173)

<223> n = A,T,C or G

<400> 147

acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg	60
actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt	120
atattcaagc acatatgtta tatattatc agttccatgt ttatagccta gtt	173

<210> 148

<211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgcc tttctatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgctgcaat aatcacattc ccttctgtgc ctgaccctga agccattggg 180
 gtggctctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240
 nccanccac ctcaccgacc ccctcctctt acacagctac ctcttgctc tctaacccca 300
 tagattatnt ccaaattcag tcaattaagt tactattaac actctacccg acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420
 ccaggcacag gctacctcat cttcacaatc acccctttaa ttaccatgct atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcatttaag agggaagaac 60
 taacgtatnt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagagtcagc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca 180
 tttcaggcag agggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(111)
 <223> n = A,T,C or G

<400> 150
 accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg 60
 cacttaaagt tggtcagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcgcggcag gtcatatga acattccaga tacctatcat tactcgatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat 120
 ggataccaac cggaaaaccc ctatcccgca cagccactg tgggtcccccac tgtctacgag 180
 gtgcatccgg ctcagt 196

<210> 152
 <211> 132
 <212> DNA

<213> Homo sapien

<400> 152

```
acagcacttt cacatgtaag aagggagaaa ttcctaaatg taggagaaag ataacagAAC      60
cttccccctt tcatctagtG gtggaaacct gatgctttat gttgacagga atagaaccag      120
gagggagttt gt                                     132
```

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (285)

<223> n = A,T,C or G

<400> 153

```
acaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag      60
cttctgctct tatgtcctca tctgacaact ctttaccatt tttatcctcg ctcagcagga      120
gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaacac      180
cctggctagt gaggggtgcg cgccgctcct ggatgacggc atctgtgaag tcgtgcacca      240
gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt                          285
```

<210> 154

<211> 333

<212> DNA

<213> Homo sapien

<400> 154

```
accacagtcc tggtgggcca gggcttcatg accctttctg tgaaaagcca tattatcacc      60
accccaaatt ttctcttaaA tatctttaac tgaaggggtc agcctcttga ctgcaaagac      120
cctaagccgg ttacacagct aactcccact ggccctgatt tgtgaaattg ctgctgcctg      180
attggcacag gagtgcgaagg tgttcagctc ccctcctcgg tggaacgaga ctctgatttg      240
agtttcacaa attctcgggc cacctcgtca ttgctcctct gaaataaaat ccggagaatg      300
gtcaggcctg tctcatccat atggatcttc cgg                                     333
```

<210> 155

<211> 308

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (308)

<223> n = A,T,C or G

<400> 155

```
actggaaata ataaaaccca catcacagtG ttgtgtcaaa gatcatcagg gcatggatgg      60
gaaagtgtct tgggaactgt aaagtgccta acacatgac gatgattttt gttataatat      120
ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc      180
atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggct      240
gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtga aggcatgctg      300
gccctggt                                     308
```

<210> 156

<211> 295

<212> DNA

<213> Homo sapien

<400> 156

accttgctcg	gtgcttgga	catattagga	actcaaaata	tgagatgata	acagtgccta	60
ttattgatta	ctgagagaac	tgtagacat	ttagttgaag	atcttctaca	caggaactga	120
gaataggaga	ttatgtttgg	ccctcatatt	ctctcctatc	ctccttgcc	cattctatgt	180
ctaatatatt	ctcaatcaaa	taaggttagc	ataatcagga	aatcgaccaa	ataccaatat	240
aaaaccagat	gtctatcctt	aagattttca	aatagaaaac	aaattaacag	actat	295

<210> 157

<211> 126

<212> DNA

<213> Homo sapien

<400> 157

acaagtttaa	atagtgtgt	cactgtgcat	gtgctgaaat	gtgaaatcca	ccacatttct	60
gaagagcaaa	acaaattctg	tcatgtaatc	tctatcttgg	gtcgtgggta	tatctgtccc	120
cttagt						126

<210> 158

<211> 442

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(442)

<223> n = A,T,C or G

<400> 158

accactggt	cttggaaca	cccatcctta	atacgatgat	ttttctgtcg	tgtgaaaatg	60
aanccagcag	gctgccccta	gtcagtcctt	ccttcacagag	aaaaagagat	ttgagaaagt	120
gcctgggtaa	ttcaccatta	atttcctccc	ccaaactctc	tgagtcttcc	cttaatattt	180
ctggtggttc	tgaccaaagc	aggtcattgt	ttgttgagca	tttgggatcc	cagtgaagta	240
natgtttgta	gccttgcata	cttagccctt	cccacgcaca	aacggagtgg	cagagtgggtg	300
ccaaccctgt	tttcccagtc	cacgtagaca	gattcacagt	gcggaattct	ggaagctgga	360
nacagacggg	ctctttgcag	agccgggact	ctgagangga	catgagggcc	tctgcctctg	420
tgttcattct	ctgatgtcct	gt				442

<210> 159

<211> 498

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 159

acttccaggt	aacgttggtg	tttccgttga	gcctgaactg	atgggtgacg	ttgtaggttc	60
tccaacaaga	actgaggttg	cagagcgggt	agggaaagagt	gctgttccag	ttgcacctgg	120
gctgctgtgg	actgttggtg	attcctcact	acggcccaag	gttgtggaac	tggcanaaag	180
gtgtgtgtgt	gganttgagc	tggggcggt	gtggtagggt	gtgggctctt	caacaggggc	240
tgctgtgggt	ccgggaggtg	aangtggtgt	gtcacttgag	cttggccagc	tctggaaagt	300
antanattct	tcctgaagtc	cagcgcttgt	ggagctggca	ngggtcantg	ttgtgtgtaa	360
cgaaccagtg	ctgctgtggg	tgggtgtana	tcctccacaa	agcctgaagt	tatgggtgcn	420
tcaggttaana	atgtgggttc	agtgtccctg	ggcngctgtg	gaaggttgta	nattgtcacc	480

aaggggaataa gctgtggt

498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(380)

<223> n = A,T,C or G

<400> 160

acctgcatcc agcttccctg ccaaactcac aaggagacat caacctctag acagggaaac	60
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tcccatgcct	120
ggagcatggc atagaggaag ctganaaatg tggggtctga ggaagccatt tgagtctggc	180
cactagacat ctcatcagcc acttgtgtga agagatgccc catgacccca gatgcctctc	240
ccacccttac ccccatctca cacacttgag ctttccactc tgtataattc taacatcctg	300
gagaaaaatg gcagtttgac cgaacctgtt cacaacggta gaggtgatt tctaacgaaa	360
cttgtagaat gaagcctgga	380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc cctctgagc aggcggttgt cgttcaaggt gtatttgccc ttgcctgtca	60
cactgtccac tggcccctta tccacttggt gcttaatccc tcgaaagagc atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

actttctgaa tcgaatcaaa tgatacttag tgtagtttta atatectcat atatatcaaa	60
gttttactac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt	120
tggtgatata taacttggca ataaccagc ctggtgatac ataaaactac tcactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(137)

<223> n = A,T,C or G

<400> 163

catttatata gacaggcgtg aagacattca cgacaaaaac gcgaaattct atcccgtgac	60
canagaaggc agctacggct actcctacat cctggcgtgg gtggccttcg cctgcacctt	120
catcagcggc atgatgt	137

<210> 164

<211> 469

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(469)

<223> n = A,T,C or G

<400> 164

cttatcacia	tgaatgttct	cctgggcagc	gttgtgatct	ttgccacctt	cgtgacttta	60
tgcaatgcat	catgctattt	cataccta	gagggagttc	caggagattc	aaccaggaaa	120
tgcatggatc	tcaaaggaaa	caaacaccca	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgctacga	aacagaaatt	tcatgttgca	cccttgtttc	tacacctgtg	240
ggttatgaca	aagacaactg	ccaaagaatc	ttcaagaagg	aggactgcaa	gtatatcgtg	300
gtggagaaga	aggacccaaa	aaagacctgt	tctgtcagtg	aatggataat	ctaattgtgct	360
tctagtaggc	acagggtccc	caggccaggc	ctcattctcc	tctggcctct	aatagtcaat	420
gattgtgtag	ccatgcctat	cagtaaaaaag	atntttgagc	aaacacttt		469

<210> 165

<211> 195

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(195)

<223> n = A,T,C or G

<400> 165

acagtttttt	atanatatcg	acattgccgg	cacttggtgtt	cagtttcata	aagctgggtg	60
atccgctgtc	atccactatt	ccttggtctag	agtaaaaaatt	attcttatag	cccatgtccc	120
tgcaggccgc	ccgcccgtag	ttctcgttcc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

<210> 166

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 166

acatcttagt	agtgtggcac	atcagggggc	catcaggggtc	acagtcactc	atagcctcgc	60
cgaggtcggg	gtccacacca	ccggtgtagg	tgtgtctaat	cttgggcttg	gcgcccacct	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgcagacc	agcctgagca	aggggcggat	gttcagcttc	agtcctcct	tcgtcagggtg	240
gatgccaaac	tcgtctangg	tccgtgggaa	gctgggtgtcc	acntcaccta	caacctgggc	300
gangatctta	taaagaggct	ccnagataaa	ctccacgaaa	cttctctggg	agctgctagt	360
nggggccttt	ttggtgaact	ttc				383

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(247)
 <223> n = A,T,C or G

<400> 167
 acagagccag accttggcca taaatgaanc agagattaag actaaacccc aagtcganat 60
 tggagcagaa actggagcaa gaagtgggccc tggggctgaa gtagagacca aggccactgc 120
 tatanccata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac 180
 tcaatctgan tccaaagtgg tggctggaac actggtcatg acanaggcag tgactctgac 240
 tgangtc 247

<210> 168
 <211> 273
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(273)
 <223> n = A,T,C or G

<400> 168
 acttctaagt tttctagaag tggaaggatt gtantcatcc tgaaaatggg tttacttcaa 60
 aatccctcan ccttgttctt caactctgct tatactgana gtgtcatgtt tccacaaagg 120
 gctgacacct gagcctgnat tttactcat ccctgagaag ccctttccag taggggtgggc 180
 aattcccaac ttccttgcca caagcttccc aggcctttctc ccctggaaaa ctccagcttg 240
 agtcccatgat acactcatgg gctgcccctgg gca 273

<210> 169
 <211> 431
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 169
 acagccttgg cttccccaaa ctccacagtc tcagtgcaga aagatcatct tccagcagtc 60
 agctcagacc aggggtcaaa gatgtgacat caacagtttc tggtttcaga acagggttcta 120
 ctactgtcaa atgaccccc atacttcctc aaaggctgtg gtaagttttg cacagggtgag 180
 ggcagcagaa aggggggtant tactgatgga caccatcttc tctgtatact ccacactgac 240
 cttgccatgg gcaaaggccc ctaccacaaa aacaatagga tcaactgctgg gcaccagctc 300
 acgcacatca ctgacaaccg ggatggaaaa agaantgcc aactttcatac atccaactgg 360
 aaagtgatct gatactggat tcttaattac cttcaaaagc ttctgggggc catcagctgc 420
 tcgaacactg a 431

<210> 170
 <211> 266
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgtgggc tgggctgtta tgctgtgcc ggctgtgaa agggagttca gaggtggagc 60
 tcaaggagct ctgcaggcat tttgccaanc ctctccanag canagggagc aacctacact 120
 ccccgctaga aagacaccag attggagtcc tgggaggggg agttgggggtg ggcatttgat 180
 gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240
 tcaaagctag ggggtctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactgc agcccgcact cgcagccctg gcaggcggca 60
 ctggctcatgg aaaacgaatt gttctgctcg ggctgcctgg tgcattccgca gtgggtgctg 120
 tcagccgcac actgtttcca gaagttagtg cagagctcct acaccatcgg gctgggcctg 180
 cacagtcttg aggccgacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccag agtacaacag acccttgctc gctaacgacc tcatgctcat caagttggac 300
 gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc 360
 gcggggaaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420
 gtgctgcagt gcgtgaacgt gtcgggtggg tctgaggagg tctgcagtaa gctctatgac 480
 ccgctgtacc accccagcat gttctgcgcc ggccgagggc aagaccagaa ggactcctgc 540
 aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtcttcc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccagggtgtct acaccaacct ctgcaaattc 660
 actgagtgga tagagaaaac cgtccaggcc agttaactct ggggactggg aacccatgaa 720
 attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agccccctct 780
 cctcaggcc caggagtcca ggccccagc cctcctccc tcaaaccaag ggtacagatc 840
 cccagccct cctccctcag acccaggagt ccagaccccc cagccccctc tccctcagac 900
 ccaggagtcc agccccctct cctcagacc caggagtcca gacccccccag cccctcctcc 960
 ctccagacca ggggtccagg cccccaaccc ctccctccctc agactcagag gtccaagccc 1020
 ccaaccntc attccccaga cccagaggtc cagggtcccag cccctcntcc ctccagacca 1080
 gcgggtccaat gccacctaga ctntccctgt acacagtgc cccttggtggc acgttgacct 1140
 aaccttacca gttggttttt catttttngt ccctttcccc tagatccaga aataaagttt 1200
 aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

50	55	60
Arg Met Pro Thr Val	Leu Gln Cys Val Asn Val Ser Val Val Ser Glu	
65	70	75
Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe		80
	85	90
Cys Ala Gly Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser		95
	100	105
Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe		110
	115	120
Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn		125
	130	135
Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser		140
145	150	155

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1265)

<223> n = A,T,C or G

<400> 173

ggcagcccg	actcgagcc	ctggcaggcg	gcactgggtca	tggaaaacga	attgttctgc	60
tcgggcgtcc	tgggtgcatcc	gcagtgggtg	ctgtcagccg	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggcct	gcacagtctt	gaggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gaccttctgt	cgctaacgac	240
ctcatgctca	tcaagttgga	cgaatccgtg	tccgagtctg	acaccatccg	gagcatcagc	300
attgcttctgc	agtgccttac	cgcggggaac	tcttgctctg	tttctggctg	gggtctgctg	360
gcgaacgggtg	agctcacggg	tgtgtgtctg	ccctcttcaa	ggaggtcctc	tgcccagtcg	420
cgggggctga	ccagagctc	tgcgtcccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggt	ggtgtctgag	gaggtctgca	gtaagctcta	tgaccgctg	taccaccca	540
gcatgttctg	cgccggcgga	gggcaagacc	agaaggactc	ctgcaacggt	gactctgggg	600
ggccccgat	ctgcaacggg	tacttgacgg	gccttgtgtc	tttcggaaaa	gccccgtgtg	660
gccaagttgg	cgtgccaggt	gtctacacca	acctctgcaa	attcactgag	tggatagaga	720
aaaccgtcca	ggccagttaa	ctctggggac	tgggaaccca	tgaaattgac	ccccaaatac	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tcttccctca	ggcccaggag	840
tccaggcccc	cagccccctc	tccctcaaac	caagggtaca	gatccccagc	ccctcctccc	900
tcagaccag	gagtcacag	ccccagccc	ctcctccctc	agaccagga	gtccagcccc	960
tctcctntca	gacccaggag	tccagacccc	ccagccctc	ctccctcaga	cccagggggtt	1020
gaggccccca	acccctcctc	cttcagagtc	agagggtcaa	gcccccaacc	cctcggtccc	1080
cagaccaga	ggttnnaggtc	ccagccctc	tccntcaga	cccagnngtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcccccttg	tggngangttg	acccaacctt	accagttggt	1200
ttttcatttt	tngtcccttt	cccctagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174

<211> 1459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1459)

<223> n = A,T,C or G

<400> 174

ggtcagccgc	acactgtttc	cagaagtgag	tgcagagctc	ctacaccatc	gggctggggc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtagggggc	agcctctccg	120
tacggcacc	agagtacaac	agacccttgc	tcgctaacga	cctcatgctc	atcaagttgg	180
acgaatccgt	gtccgagtct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcctta	240
ccgcggggaa	ctcttgctc	gtttctggct	ggggtctgct	ggcgaacggg	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgcccagtc	gcgggggctg	accagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tgggtgtctga	420
ngagggtctgc	antaagctct	atgaccctgc	gtaccacccc	ancatgttct	gcgccggcgg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
cagggaagg	tggagaagg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcattggggc	tgagggcggg	780
gacctccacc	caatagaaaa	tcctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtgcattt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttggg	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	ttttttaaat	tgttgcaact	ctcctaaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggccaactgt	1080
gtaccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aaatcaagac	tctacaaaga	ggctgggcag	ggtaggtcat	gcctgtaatc	ccagcacttt	1200
gggaggcgag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgcctgt	1320
aatcccagct	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgagtt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (1167)

<223> n = A,T,C or G

<400> 175

gcgcagccct	ggcaggcggc	actggctcatg	gaaaacgaat	tgttctgctc	gggcgtcctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggg	ggaggccagc	180
ctctccgtac	ggcaccacga	gtacaacaga	ctcttgctcg	ctaaccagct	catgtctatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatcagcat	tgcttcgcag	300
tgccctaccg	cggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgctgcaactg	cgtgaacgtg	tcgggtggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgtgtacca	ccccagcatg	ttctgcgcgc	gcggagggca	agaccagaag	480
gactcctgca	acgggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	cagggtgtcta	caccaacctc	600
tgcaaatcca	ctgagtggat	agagaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcggaangaa	ttcaggaata	tctgttccca	720
gcccctcctc	cctcaggccc	aggagtccag	gccccagcc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccctc	ctccctcaga	cccaggagtc	cagaccccc	agccccctnt	840
ccntcagacc	caggagtcca	gccccctcctc	cntcagacgc	aggagtccag	accccccagc	900
ccntcntccg	tcagaccag	gggtgcaggc	ccccaacccc	tcntccntca	gagtcagagg	960
tccaagcccc	caaccctcgc	ttccccagac	ccagaggtnc	aggteccagc	ccctcctccc	1020
tcagaccag	cgggtccaatg	ccacctagan	ntccctgtga	cacagtgcgc	ccttgtggca	1080
ngttgaccca	accttaccag	ttggtttttc	attttttgtc	cctttcccct	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaaa				1167

<210> 176
 <211> 205
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(205)
 <223> Xaa = Any Amino Acid

<400> 176
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
 100 105 110
 Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
 115 120 125
 Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
 130 135 140
 Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
 145 150 155 160
 Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
 165 170 175
 Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
 180 185 190
 Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
 195 200 205

<210> 177
 <211> 1119
 <212> DNA
 <213> Homo sapien

<400> 177
 gcgcactcgc agccctggca ggcggcactg gtcattggaaa acgaattggt ctgctcgggc 60
 gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gtttccagaa ctctacacc 120
 atcgggctgg gctgcacag tcttgaggcc gaccaagagc cagggagcca gatggtggag 180
 gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg 240
 ctcattcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct 300
 tcgcagtgcc ctaccgctgg gaactcttgc ctcgtttctg gctgggggtct gctggcgaaac 360
 gatgctgtga ttgccatcca gtcccagact gtgggagggt gggagtggtga gaagctttcc 420
 caaccctggc aggggtgtac catttcggca acttccagtg caaggacgtc ctgctgcac 480
 ctactgggt gctcactact gctcactgca tcaccggaa cactgtgatc aactagccag 540
 caccatagtt ctccgaagtc agactatcat gattactgtg ttgactgtgc tgtctattgt 600
 actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tcttggtatc 660
 cagttatcct cactgaattg agatttctctg cttcagtgct agccattccc acataatttc 720
 tgacctacag aggtgaggga tcatatagct cttcaaggat gctgggtactc ccctcacaaa 780

```

ttcattttctc ctgttgtagt gaaaggtgcg ccctctggag cctcccaggg tgggtgtgca      840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctcatg      900
ctcagtacac cagggcaggt ctagcatttc ttcatttagt gtatgctgtc cattcatgca      960
accacctcag gactcctgga ttctctgcct agttgagctc ctgcatgctg cctccttggg     1020
gaggtgaggg agagggccca tggttcaatg ggatctgtgc agttgtaaca cattaggtgc     1080
ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaaaa     1119

```

<210> 178
 <211> 164
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(164)
 <223> Xaa = Any Amino Acid

```

<400> 178
Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
 50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
100          105          110
Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
115          120          125
Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
130          135          140
Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Thr Ala Ser
145          150          155          160
Pro Gly Thr Leu

```

<210> 179
 <211> 250
 <212> DNA
 <213> Homo sapien

```

<400> 179
ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct      60
ccagctgccc ccggccgggg gatgcgaggc tgggagcacc cttgcccggc tgtgattgct     120
gccaggcact gttcatctca gcttttctgt ccctttgctc ccggcaagcg cttctgctga     180
aagttcatat ctggagcctg atgtcttaac gaataaaggt cccatgctcc acccgaaaaa     240
aaaaaaaaaa                                     250

```

<210> 180
 <211> 202
 <212> DNA
 <213> Homo sapien

```

<400> 180
actagtccag tgtggtggaa ttccattgtg ttggggcccaa cacaatggct acctttaaca      60
tcacccagac cccgcccctg cccgtgcccc acgtgtctgc taacgacagt atgatgctta      120
ctctgtctact cggaaactat ttttatgtaa ttaatgtatg ctttcttggt tataaatgcc      180
tgatttaaaa aaaaaaaaaa aa                                         202

```

<210> 181

<211> 558

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(558)

<223> n = A,T,C or G

```

<400> 181
tccytgtgkt naggtttkkg agacamccck agacctwaan ctgtgtcaca gacttcyngg      60
aatgtttagg cagtgttagt aatttcytcg taatgattct gttattactt tcctnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatacaaaaa      180
ggtagtgtga tagtataagt atctaagtgc agatgaaagt gtgttatata tatccattca      240
aaattatgca agttagtaat tactcagggt taactaaatt actttaatat gctgttgaac      300
ctactctgtt ccttggttag aaaaaattat aaacaggact ttgttagttt gggaagccaa      360
attgataata ttctatgttc taaaagttgg gctatacata aattattaag aaatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta cscrggatag awgtwtgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmtaaataa acaakgcttt gacttatttc      540
caaaaaaaaa aaaaaaaaaa                                         558

```

<210> 182

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

```

<400> 182
acagggttk grggatgcta agseccerga rwtggtttga tccaaccctg gcttwttttc      60
agaggggaaa atggggccta gaagttacag mscatytagy tgggtgcgmtg gcacccctgg      120
cstcacacag astcccagat agctgggact acaggcacac agtcactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tccttagtca      240
ctaagggttaa actttcccac ccagaaaagg caacttagat aaaatcttag agtactttca      300
tactmttcta agtcctcttc cagcctcact kkgagtccctm cytggggggtt gataggaant      360
ntctcttggc tttctcaata aartctctat ycatctcatg ttttaatttg tacgcatara      420
awtgstgara aaattaaaat gttctgggty mactttaaaa aaaaaaaaaa aaaaaaaaaa      479

```

<210> 183

<211> 384

<212> DNA

<213> Homo sapien

<400> 183

```

aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc      60
agtaccagta ccaataacag tgccagtgcc agtgccagca ccagtgggtg cttcagtgtc      120
ggtgccagcc tgaccgccac tctcacattt gggctcttcg ctggccttgg tggagctggt      180
gccagcacca gtggcagctc tgggtgctgt ggtttctcct acaagtgaga ttttagatat      240

```

tgттаатсст	gccagtcttt	ctcttcaagc	caggggtgcat	cctcagaaac	ctactcaaca	300
cagcactcta	ggcagccact	atcaatcaat	tgaagttgac	actctgcatt	aratctattt	360
gccatttcaa	aaaaaaaaaa	aaaa				384

<210> 184
 <211> 496
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(496)
 <223> n = A,T,C or G

<400> 184						
accgaattgg	gaccgctggc	ttataagcga	tcatgtyynt	ccrgtatcac	ctcaacgagc	60
aggagatcg	agtctatacg	ctgaagaaat	ttgacccgat	gggacaacag	acctgctcag	120
cccattcctgc	tcggttctcc	ccagatgaca	aatactctsg	acaccgaatc	accatcaaga	180
aacgcttcaa	ggtgctcatg	acccagcaac	cgcgccctgt	cctctgaggg	tcctttaaac	240
tgatgtcttt	tctgccacct	gttaccacct	ggagactccg	taaccaaact	cttcggactg	300
tgagccctga	tgcccttttg	ccagccatac	tctttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgaggcaa	tcatggtggc	atcacccata	aagggaacac	atttgacttt	420
tttttctcat	attttaaatt	actacmagaw	tattwmagaw	waaatgawtt	gaaaaactst	480
taaaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185						
gctggtagcc	tatggcgkgg	cccacggagg	ggctcctgag	gccacggrac	agtgacttcc	60
caagtatcyt	gcgcsgcgtc	ttctaccgtc	cctacctgca	gatcttcggg	cagattcccc	120
aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	yticgtcggag	cccggcttct	180
gggcacaccc	tcctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	aactggctgg	240
tggtgctgct	cctcgtcatc	ttcctgctcg	tgccaacat	cctgctggtc	aacttgctca	300
ttgccatgtt	cagttacaca	ttcggcaaa	tacagggcaa	cagcgatctc	tactgggaag	360
gcgcagcgtt	accgcctcat	ccgg				384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 186						
gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gentaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtcga	tgaaacctgt	gggctgggtc	tgtcttcgcg	180
tcggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgcogttga	mcgtgccgaa	garcaccgag	ccttggtgtg	gggkkgaggt	360
ctcaccacga	ttctgcatta	ccagagagcc	gtggcaaaag	acattgacaa	actcgcccag	420
gtggaaaaag	amcamctcct	ggargtgctn	gccgctcctc	gtcmgttggt	ggcagcgctw	480

tccttttgac acacaaacaa gttaaaggca ttttcagccc ccagaaantt gtcacatccc 540
 aagatntcgc acagcactna tccagttggg attaaat 577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (534)
 <223> n = A,T,C or G

<400> 187
 aacatcttcc tgtataatgc tgtgtaatat cgatccgatn ttgtctgstg agaaticatw 60
 actkggaaaa gmaacattaa agcctggaca ctgggtattaa aattcacaat atgcaacact 120
 ttaaaccagt tgtcaatctg ctcccyynac tttgtcatca ccagtctggg aakaagggta 180
 tgccctattc acacctgtta aaagggcgct aagcattttt gattcaacat cttttttttt 240
 gacacaagtc cgaaaaaagc aaaagtaaac agttatyaat ttgttagcca attcactttc 300
 ttcatggggac agagccatyt gatttaaaaa gcaaattgca taatattgag ctttggggagc 360
 tgatatttga gcggaagagt agccttttcta cttcaccaga cacaactccc tttcatattg 420
 ggatgttnac naaagtwatg tctctwacag atgggatgct tttgtggcaa ttctgttctg 480
 aggatctccc agtttattta ccacttgcac aagaaggcgt tttcttctc aggc 534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (761)
 <223> n = A,T,C or G

<400> 188
 agaaaccagt atctctnaaa acaacctctc ataccttgtg gacctaatth ttgtgtgcgtg 60
 tgtgtgtgcg cgcataattat atagacaggc acatcttttt tacttttgta aaagcttatg 120
 cctcttttgg atctatatct gtgaaagttt taatgatctg ccataatgct ttggggacct 180
 ttgtcttctg tgtaaattgg actagagaaa acacctatnt tatgagtcaa tctagttngt 240
 tttattcgac atgaaggaaa tttccagatn acaacactna caaactctcc ctkgackarg 300
 ggggacaaaag aaaagcaaaa ctgamcataa raaacaatwa cctgggtgaga arttgcataa 360
 acagaaatwr ggtagtatat tgaarnacag catcattaaa rmgttwtktt wttctccctt 420
 gcaaaaaaca tgtacngact tcccgttgag taatgccaaag ttgttttttt tatnataaaa 480
 cttgcccttc attacatggt tnaaagtggg gtgggtgggccc aaaatattga aatgatggaa 540
 ctgactgata aagctgtaca aataagcagt gtgcctaaca agcaacacag taatgttgac 600
 atgcttaatt cacaatgct aatttcatta taaatgtttg ctaaaataca ctttgaacta 660
 tttttctgtt tttccagagc tgagatntta gattttatgt agtatnaagt gaaaaantac 720
 gaaaataata acattgaaga aaananaaaa aaanaaaaaa a 761

<210> 189
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (482)
 <223> n = A,T,C or G

```

<400> 189
tttttttttt tttgcccgatn ctactatttt attgcaggan gtgggggtgt atgcaccgca      60
caccggggct atnagaagca agaaggaagg agggagggca cagccccttg ctgagcaaca      120
aagccgcctg ctgccttctc tgtctgtctc ctggtgcagg cacatgggga gaccttcccc      180
aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggangtgt gcataagaag      240
tgataggcac agggcaccgg gtacagaccc ctcggctcct gacaggtnga ttctgaccag      300
gtcattgtgc cctgcccagg cacagcgta atctggaaaa gacagaatgc ttctcttttc      360
aaatttggct ngtcatngaa ngggcanttt tccaanttng gctnggtctt ggtacncttg      420
gttcggccca gctccnctc caaaaantat tcaccnct ccnaattgct tgcngncccc      480
cc

```

```

<210> 190
<211> 471
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (471)
<223> n = A,T,C or G

```

```

<400> 190
tttttttttt ttttaaaaca gtttttcaca acaaaattta ttagaagaat agtgggttttg      60
aaaactctcg catccagtga gaactacat acaccacatt acagctngga atgtnctcca      120
aatgtctggt caaatgatac aatggaacca ttcaatctta cacatgcacg aaagaacaag      180
cgcttttgac atacaatgca caaaaaaaaa aggggggggg gaccacatgg attaaaattt      240
taagtactca tcacatacat taagacacag ttctagtcca gtcnaaaatc agaactgcnt      300
tgaaaaattt catgtatgca atccaaccaa agaacttnat tggatgatcat gantnctcta      360
ctacatcnac cttgatcatt gccaggaacn aaaagttnaa ancacncngt acaaaaanaa      420
tctgtaattn anttcaacct ccgtacngaa aaatnttnt tataactcc c          471

```

```

<210> 191
<211> 402
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (402)
<223> n = A,T,C or G

```

```

<400> 191
gagggattga aggtctgttc tastgtcggm ctgttcagcc accaactcta acaagttgct      60
gtcttccact cactgtctgt aagcttttta acccagacwg tatcttcata aatagaacaa      120
attcttcacc agtcacatct tctaggacct ttttgattc agttagtata agctcttcca      180
cttcttttgt taagacttca tctggtaaag tcttaagttt tgtagaaagg aattyaattg      240
ctcgttctct aacaatgtcc tctccttgaa gtatttggt gaacaacca cctaaagtcc      300
ctttgtgcat ccattttaaa tatacttaat agggcattgk tncactaggt taaattctgc      360
aagagtcac tgtctgcaaa agttgcgtta gtatatctgc ca          402

```

```

<210> 192
<211> 601
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature

```

<222> (1)...(601)

<223> n = A,T,C or G

<400> 192

```

gagctcggat ccaataatct ttgtctgagg gcagcacaca tatncagtgc catggnaact      60
gggtctacccc acatgggagc agcatgccgt agntatataa ggtcattccc tgagtcagac      120
atgcytyttt gaytaccgtg tgccaagtgc tgggtgattct yaacacacyt ccatcccgyt      180
cttttgtgga aaaactggca cttktctgga actagcarga catcacttac aaattcaccc      240
acgagacact tgaaaggtgt aacaaagcga ytcttgcaatt gctttttgtc cctccggcac      300
cagttgtcaa tactaaccgc ctgggttgcc tccatcacat ttgtgatctg tagctctgga      360
tacatctcct gacagtactg aagaacttct tcttttgttt caaaagcarg tcttggtgcc      420
tggtggatca gggtcccat tcccagtcyg aatgttcaca tggcatattt wacttccac      480
aaaacattgc gatttgaggc tcagcaacag caaatcctgt tccggcattg gctgcaagag      540
cctcgatgta gccggccagc gccaaaggcag gcgccgtgag cccaccagc agcagaagca      600
g

```

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 193

```

atacagccca natcccacca cgaagatgcg cttgttgact gagaacctga tgcgggtcact      60
gggtcccgctg tagccccagc gactctccac ctgctggaag cgggtgatgc tgcactcytt      120
cccaacgcag gcagmagcgg gcccggtcaa tgaactccay tegtggcttg gggtkgacgg      180
tkaagtgcag gaagaggctg accacctcgc ggtccaccag gatgcccgac tgtgcgggac      240
ctgcagcga actcctcgat ggtcatgagc gggaagcga tgaggcccag ggccttgccc      300
agaaccttcc gcctgttctc tggcgtcacc tgcagctgct gccgctgaca ctcggcctcg      360
gaccagcggg caaacggcrt tgaacagccg cacctcacgg atgcccagtg tgtcgcgctc      420
caggammgsc accagcgtgt ccagggtcaat gtcgggtgaag ccctccgcgg gtrattggcg      480
ctgcagtggt ttgtcgatg ttctccaggc acaggctggc cagctgcggt tcatcgaaga      540
gtcgcgcctg cgtgagcagc atgaaggcgt tgtcggctcg cagttcttct tcaggaactc      600
cacgcaat

```

<210> 194

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 194

```

gaacggctgg accttgccct gcatttgtct tgctggcagg gaataccttg gcaagcagyt      60
ccagtccgag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc      120
tccgcctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccaaac      240
aacaacaaca aaataacatg ttgacctgtt aagttgtata aaagtaggtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtatttatt gkinctstgg      360
aaataaatat agttattaaa gggtgtcant cc

```

<210> 195
 <211> 502
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(502)
 <223> n = A,T,C or G

<400> 195
 ccsttkgagg ggkagggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg 60
 ccgagctgag gcagatgttc ccacagtgc cccagagacc stgggstata gtytctgacc 120
 cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc 180
 aaggggaaggc cccattccgg ggstgttccc cgaggaggaa ggggaaggggc tctgtgtgcc 240
 ccccasgagg aagaggccct ggtcctggg atcagacacc ccttcacgtg tatccccaca 300
 caaatgcaag ctcaccaagg tcccctctca gtccccttcc stacaccctg amcggccact 360
 gscscacacc caccagagc acgccaccgc ccatggggar tgtgctcaag gartcgcnng 420
 gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmstt 480
 gctnanaaaa aaaaanaaaa aa 502

<210> 196
 <211> 665
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(665)
 <223> n = A,T,C or G

<400> 196
 gggttacttgg tttcattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc 60
 cctctggaag ccttgccgag agcggacttt gtaattgttg gagaataact gctgaatttt 120
 wagctgtttk gagttgatts gcaccactgc acccacaact tcaatatgaa aacyawttga 180
 actwatattat tatcttgtga aaagtataac aatgaaaatt ttgttcatac tgtattkatc 240
 aagtatgatg aaaagcaawa gatatatatt cttttattat gttaaattat gattgccatt 300
 attaatcggc aaaatgtgga gtgtatgttc ttttcacagt aatatatgcc ttttgtaact 360
 tcacttgggtt attttattgt aaatgartta caaaattctt aatttaagar aatggatgt 420
 watatttatt tcattaattt ctttctkgt ttacgtwaat tttgaaaaga wtgcattgatt 480
 tcttgacaga aatcgatctt gatgctgttg aagtagtttg acccacatcc ctatgagttt 540
 ttcttagaat gtataaagggt ttagatccat cnaacttcaa agaaaaaat gaccacatac 600
 tttgcaatca ggctgaaatg tggcatgctn ttctaattcc aactttataa actagcaaan 660
 aagtg 665

<210> 197
 <211> 492
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(492)
 <223> n = A,T,C or G

<400> 197
 ttttnttttt ttttttttgc aggaaggatt ccatttattg tggatgcatt ttcacaatat 60
 atgtttattg gagcgatcca ttatcagtga aaagtatcaa gtgtttataa natttttagg 120


```

aaggcagatt cacagaacat gctngtcngc ttgcagtttt acctcgtana gatnacagag      180
aattatagtc naaccagtaa acnaggaatt tacttttcaa aagattaaat ccaaactgaa      240
caaaattcta ccctgaaact tactccatcc aaatattgga ataanagtca gcagtgtac      300
attctcttct gaactttaga ttttctagaa aaatatgtaa tagtgatcag gaagagctct      360
tgttcaaaag tacaacnaag caatgttccc ttaccatagg ccttaattca aactttgatc      420
catttcactc ccatcacggg agtcaatgct acctgggaca cttgtatttt gttcatnctg      480
ancntggctt aa                                                                492

```

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (478)

<223> n = A,T,C or G

<400> 198

```

tttnttttgn atttcantct gtannaanta ttttcattat gtttattana aaaatatnaa      60
tgtntccacn acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac      120
tgagtatatt ttgaaaagga caagtttaaa gtanacncat attgccganc atancacatt      180
tatacatggc ttgattgata tttagcacag canaaactga gtgagttacc agaaanaaat      240
natatatgtc aatcngattt aagatacaaaa acagatccta tggtagatan catcntgtag      300
gagttgtggc tttatgttta ctgaaagtca atgcagttcc tgtacaaaaga gatggccgta      360
agcattctag tacctctact ccatgggttaa gaatcgtaca cttatgttta catatgtnta      420
gggtaagaat tgtgttaagt naanttatgg agaggtccan gagaaaaatt tgaatnaa      478

```

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (482)

<223> n = A,T,C or G

<400> 199

```

agtgacttgt cctccaacaa aacccttga tcaagtttgt ggcaactgaca atcagacctta      60
tgctagtgtc tgtcatctat tcgctactaa atgcagactg gagggggacca aaaaggggca      120
tcaactccag ctggattatt ttggagcctg caaatctatt cctacttgta cggactttga      180
agtgattcag tttcctctac ggatgagaga ctgggtcaag aatatcctca tgcagcttta      240
tgaagccnac tctgaacacg ctgggttatct nagatgagaa ncagagaaat aaagtcnaga      300
aaatttacct ggangaaaag aggccttngg ctgggggacca tcccattgaa ccttctctta      360
anggacttta agaanaaaact accacatgtn tgnngtatcc tgggtgccngg ccgtttantg      420
aacntngaen ncacccttnt ggaatanant cttgaacngcn tcctgaactt gtcctctctg      480
ga                                                                482

```

<210> 200

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (270)

<223> n = A,T,C or G

```

<400> 200
cggccgcaag tgcaactcca gctggggccg tgcggacgaa gattctgcc a gcagttggtc      60
cgactgcgac gacggcgcg gcgacagtcg caggtgcagc gcgggcgcct ggggtcttgc      120
aaggctgagc tgacgccgca gaggtcgtgt caggtccac gaccttgacg ccgtcgggga      180
cagccggaac agagcccggg gaangcggga ggcctcgggg agccccctcg gaagggcggc      240
ccgagagata cgcaggtgca ggtggccgcc
                                                    270

```

```

<210> 201
<211> 419
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(419)
<223> n = A,T,C or G

```

```

<400> 201
tttttttttt ttttgaatc tactgcgagc acagcaggtc agcaacaagt ttattttgca      60
gctagcaagg taacagggta gggcatgggt acatgttcag gtcaacttcc tttgtcgtgg      120
ttgattgggt tgtctttatg ggggcggggg ggggtagggg aaancgaagc anaantaaca      180
tggagtgggt gcacctccc tgtagaacct ggttacnaaa gcttggggca gttcacctgg      240
tctgtgaccg tcattttctt gacatcaatg ttattagaag tcaggatatc ttttagagag      300
tccactgtnt ctggaggagg attagggttt cttgccaana tccaancaaa atccacntga      360
aaaagttgga tgatncangt acngaatacc ganggcatan ttctcatant cggtggtcca      419

```

```

<210> 202
<211> 509
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(509)
<223> n = A,T,C or G

```

```

<400> 202
tttntttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt      60
tggcacttaa tccattttta tttcaaaatg tctacaaant ttnaatncnc cattatacng      120
gtnattttnc aaaatctaaa nnttattcaa atntnagcca aantccttac ncaaatnnaa      180
tacnncnaaa aatcaaaaat atacntntct ttcagcaaac ttngttacat aaattaaaaa      240
aatatatacg gctgggtggt tcaaagtaca attatcttaa cactgcaaac atntttnnaa      300
ggaactaaaa taaaaaaaaa cactnccgca aagggttaag ggaacaacaa attcntttta      360
caacancnnc nattataaaa atcatatctc aaatcttagg ggaatatata cttcacacng      420
ggatcttaac ttttactnca ctttggttat ttttttanaa ccattgtntt gggcccaaca      480
caatggnaat nccnccnccn tggactagt
                                                    509

```

```

<210> 203
<211> 583
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(583)
<223> n = A,T,C or G

```

<400> 203

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaactc	ttccattttt	tcctatttcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaca	ggaagagana	atggcacaca	aaacaaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaag	aaggcttaga	tccttttatg	480
tccattttag	tcactaaaag	atatcnaaag	tgccagaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	taatataaga	tatttcacat	actcatcttt	ctg		583

<210> 204

<211> 589

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (589)

<223> n = A,T,C or G

<400> 204

ttttttttnt	tttttttttt	tttttttctc	ttcttttttt	ttganaatga	ggatcgagtt	60
tttcaactct	tagatagggc	atgaagaaaa	ctcatctttc	cagctttaaa	ataacaatca	120
aatctcttat	gctatatcat	attttaagtt	aaactaatga	gtcactggct	tatcttctcc	180
tgaaggaaat	ctgttcattc	ttctcattca	tatagttata	tcaagtacta	ccttgcatat	240
tgagagggtt	ttcttctcta	tttacacata	tatttccatg	tgaatttgta	tcaaaccttt	300
attttcatgc	aaactagaaa	ataatgtntt	cttttgcata	agagaagaga	acaatatnag	360
cattacaaaa	ctgctcaaat	tgtttgtaa	gnttatccat	tataattagt	tnggcaggag	420
ctaatacaaa	tcacattttac	ngacnagcaa	taataaaaact	gaagtaccag	ttaaatatcc	480
aaaataatta	aaggaaacatt	tttagcctgg	gtataattag	ctaattcact	ttacaagcat	540
ttattnagaa	tgaattcaca	tgttattatt	ccntagccca	acacaatgg		589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (545)

<223> n = A,T,C or G

<400> 205

tttttttttt	ttttttcagt	aataatcaga	acaatatatta	tttttatatt	taaaattcat	60
agaaaaagtgc	cttacattta	ataaaaagttt	gtttctcaaa	gtgatcagag	gaattagata	120
tngtcttgaa	caccaatatt	aatttgagga	aaatacacca	aaatacatta	agtaaattat	180
ttaagatcat	agagcttgta	agtgaaaaga	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tattagcaaa	taaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atgggggtgtc	actggtaaac	caacacattc	tgaaggatac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnga	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgttttct	ttgccaatat	taaaaaata	ataatgttta	ctactagtga	540
aacc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttagtc	aagtttctna	tttttattat	aattaaagtc	ttggtcattt	60
catttattag	ctctgcaact	tacatattta	aattaaagaa	acgttnttag	acaactgtna	120
caatttataa	atgtaagggtg	ccattattga	gtanatatat	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttta	attttattag	tagatnatac	240
actgctgcaa	acgctaattc	tcttctccat	ccccatgtng	atattgtgta	tatgtgtgag	300
ttggttagaa	tgcatcanca	atctnacaat	caacagcaag	atgaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatgatct	gacctatcct	cgggtggcaag	420
aactcttcga	accgcttcc	caaaggcngc	tgccacattt	gtggentctn	ttgcacttgt	480
ttcaaaa						487

<210> 207

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (332)

<223> n = A,T,C or G

<400> 207

tgaattggct	aaaagactgc	atttttanaa	ctagcaactc	ttatttcttt	cctttaaaaa	60
tacatagcat	taaatcccaa	atcctattta	aagacctgac	ggcttgagaa	ggtcactact	120
gcatttatag	gaccttctgg	tggttctgct	gttacntttg	aantctgaca	atccttgana	180
atctttgcat	gcagaggagg	taaaagggtat	tggattttca	cagaggaana	acacagcgca	240
gaaatgaagg	ggccaggctt	actgagcttg	tccactggag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

<210> 208

<211> 524

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (524)

<223> n = A,T,C or G

<400> 208

agggcggtgt	gcggaggggc	ttactgtttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttggtgtcc	ggccccatcc	aaccacgaag	ttgatttctc	ttgtgtgcag	agtgactgat	120
tttaaaggac	atggagcttg	tcacaatgtc	acaatgtcac	agtggtgaagg	gcacactcac	180
tcccgcgtga	ttcacattta	gcaaccaaca	atagctcatg	agtccatact	tgtaaatact	240
tttggcagaa	tacttnttga	aacttgca	tgataactaa	gatccaagat	atttcccaaa	300
gtaaatagaa	gtgggtcata	atattaatta	cctgttcaca	tcagcttcca	tttacaagtc	360
atgagccag	acactgacat	caaactaagc	ccacttagac	tcctcaccac	cagtctgtcc	420
tgtcatcaga	caggaggctg	tcaccttgac	caaattctca	ccagtcaatc	atctatccaa	480
aaaccattac	ctgatccact	tccggtaatg	caccaccttg	gtga		524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209
 ggggtgaggaa atccagagtt gccatggaga aaattccagt gtcagcattc ttgctccttg 60
 tggccctctc ctacactctg gccagagata ccacagtcaa acctggagcc aaaaaggaca 120
 caaaggactc tcgacccaaa ctgccccaga cctctctca 159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (256)
 <223> n = A,T,C or G

<400> 210
 actccctggc agacaaaggc agaggagaga gctctgttag ttctgtgttg ttgaactgcc 60
 actgaatttc tttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta 120
 tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat 180
 ttgcaggggtg naaatgggan ggctggtttg ttanatgaac agggacatag gaggtaggca 240
 ccaggatgct aaatca 256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (264)
 <223> n = A,T,C or G

<400> 211
 acattgtttt tttgagataa agcattgaga gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gttaaggaga 180
 ggggagatac attcngaaag aggactgaaa gaaatactca agtnggaaaa cagaaaaaga 240
 aaaaaaggag caaatgagaa gcct 264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (328)
 <223> n = A,T,C or G

<400> 212
 acccaaaaat ccaatgctga atatttggtc tcattattcc canattcttt gattgtcaaa 60
 ggatttaatg ttgtctcagc ttgggcactt cagttaggac ctaaggatgc cagccggcag 120
 gtttatatat gcagcaacaa tattcaagcg cgacaacagg ttattgaact tgcccgcag 180

ttnaattttca	ttcccatgtga	cttgggatcc	ttatcatcag	ccagagagat	tgaaaattta	240
cccctacnac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtcaga				328

<210> 213

<211> 250

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (250)

<223> n = A,T,C or G

<400> 213

acttatgagc	agagcgacat	atccnagtgt	agactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acattttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataanc	catgttaana	aacaaatata	tctctnacct	240
tctcatcggt						250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (444)

<223> n = A,T,C or G

<400> 214

accagaatc	caatgctgaa	tatttggtt	cattattccc	agattctttg	attgtcaaag	60
gatttaagt	tgtctcagct	tgggcacttc	agttaggacc	taaggatgcc	agccggcagg	120
tttatatat	cagcaacaat	attcaagcgc	gacaacaggt	tattgaactt	gcccggcagg	180
tgaatttcac	tcccattgac	ttgggatcct	tatcatcagc	canagagatt	gaaaatttac	240
ccctacgact	ctttactctc	tggagagggc	cagtgggtgg	agctataagc	ttggccacat	300
tttttttttc	tttatcctt	tgtcagagat	gcgattcatc	catatgctan	aaaccaacag	360
agtgactttt	acaaaattcc	tataganatt	gtgaataaaa	ccttacctat	agttgccatt	420
actttgctct	ccctaataata	cctc				444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (366)

<223> n = A,T,C or G

<400> 215

acttatgagc	agagcgacat	atccaagtgt	anactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acattttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataagc	catgttgaga	aacaaatata	tctctgacct	240
tctcatcggt	aagcagaggg	tgtaggcaac	atggaccata	gcgaanaaaa	aacttagtaa	300
tccaagctgt	tttctacact	gtaaccaggt	ttccaaccaa	ggtggaaatc	tcctatactt	360

ggtgcc

366

<210> 216

<211> 260

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(260)

<223> n = A,T,C or G

<400> 216

ctgtataaac	agaactccac	tgcanagagg	agggccgggc	caggagaatc	tcgcttgtc	60
caagacaggg	gcctaaggag	ggtctccaca	ctgctnntaa	gggctntnc	atttttttat	120
taataaaaag	tnnaaaaggc	ctcttctcaa	cttttttccc	ttnggctgga	aaatttataa	180
atcaaaaatt	tcctnaagtt	ntcaagctat	catatatact	ntatcctgaa	aaagcaacat	240
aattcttctt	tccttccttt					260

<210> 217

<211> 262

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(262)

<223> n = A,T,C or G

<400> 217

acctacgtgg	gtaagtttan	aaatgttata	atttcaggaa	naggaacgca	tataattgta	60
tcttgccctat	aattttctat	tttaataagg	aaatagcaaa	ttgggggtggg	gggaatgtag	120
ggcattctac	agtttgagca	aaatgcaatt	aaatgtggaa	ggacagcact	gaaaaatttt	180
atgaataatc	tgtatgatta	tatgtctcta	gagtagattt	ataattagcc	acttacccta	240
atataccttca	tgcttgtaaa	gt				262

<210> 218

<211> 205

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(205)

<223> n = A,T,C or G

<400> 218

accaaggtgg	tgcatcaccg	gaantggatc	aangacacca	tcgtggccaa	cccctgagca	60
cccctatcaa	ctcccttttg	tagtaaaactt	ggaaccttgg	aaatgaccag	gccaagactc	120
aggcctcccc	agttctactg	acctttgtcc	ttangtnna	ngtccagggt	tgctaggaaa	180
anaaatcagc	agacacaggt	gtaaa				205

<210> 219

<211> 114

<212> DNA

<213> Homo sapien

<400> 219

tactgttttg tctcagtaac aataaatatac aaaagactgg ttgtgttccg gccccatcca 60
accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tgga 114

<210> 220
<211> 93
<212> DNA
<213> Homo sapien

<400> 220
actagccagc acaaaaggca gggtagcctg aattgctttc tgctctttac atttctttta 60
aaataagcat ttagtgctca gtccctactg agt 93

<210> 221
<211> 167
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(167)
<223> n = A,T,C or G

<400> 221
actangtgca ggtgcgcaca aatatttgtc gatattccct tcattcttga ttccatgagg 60
tcttttgccc agcctgtggc tctactgtag taagtttctg ctgatgagga gccagnatgc 120
ccccactac ctccctgac gctccccaana aatcacccaa cctctgt 167

<210> 222
<211> 351
<212> DNA
<213> Homo sapien

<400> 222
agggcgtggt gcggagggcg gtactgacct cattagtagg aggatgcatt ctggcacccc 60
gttcttcacc tgtccccaa tccttaaaag gccatactgc ataaagtcaa caacagataa 120
atgtttgctg aattaaagga tggatgaaaa aaattaataa tgaatttttg cataatccaa 180
ttttctcttt tatatttcta gaagaagttt ctttgagcct attagatccc gggaatcttt 240
taggtgagca tgattagaga gctttaggt tgcttttaca tatatctggc atatttgagt 300
ctcgtatcaa aacaatagat tggtaaagggt ggtattattg tattgataag t 351

<210> 223
<211> 383
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(383)
<223> n = A,T,C or G

<400> 223
aaaacaaaca acaaaaaaaa acaattcttc attcagaaaa attatcttag ggactgatat 60
tggttaattat ggtcaattta atwrtrttkt ggggcatttc cttacattgt cttgacaaga 120
ttaaaatgtc tgtgccaaaa ttttgtattt tatttgagga cttcttatca aaagtaatgc 180
tgccaaagga agtctaagga attagtagtg tccccmtcac ttgtttggag tgtgctattc 240
taaaagattt tgatttcctg gaatgacaat tatattttta ctttggtggg ggaaanagtt 300
ataggaccac agtcttcact tctgatactt gtaaatatatt cttttattgc acttgttttg 360
accattaagc tatatgttta aaa 383

<210> 224
 <211> 320
 <212> DNA
 <213> Homo sapien

<400> 224
 cccctgaagg cttcttggtta gaaaatagta cagttacaac caataggaac aacaaaaaga 60
 aaaagtttgt gacattgtag tagggagtggt gtaccctta ctcccatca aaaaaaaat 120
 ggatacatgg ttaaaggata raagggaat attttatcat atgttctaaa agagaaggaa 180
 gagaaaatac tactttctcr aaatggaagc ccttaaaggt gctttgatac tgaaggacac 240
 aaatgtggcc gtccatcctc ctttaragtt gcatgacttg gacacggtaa ctggtgcagt 300
 tttaractcm gcattgtgac 320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225
 gaggactgca gcccgcactc gcagccctgg caggcggcac tggatcatgga aaacgaattg 60
 ttctgctcgg gcgtcctggt gcatccgcag tgggtgctgt cagccgcaca ctgtttccag 120
 aactcctaca ccatcgggct gggcctgcac agtcttgagg ccgaccaaga gccagggagc 180
 cagatggtgg aggccagcct ctccgtacgg caccagagt acaacagacc ctgtctcgtc 240
 aacgacctca tgctcatcaa gttggacgaa tccgtgtccg agtctgacac catccggagc 300
 atcagcattg cttcgcagtg ccctaccgag ggggaactctt gcctcgtttc tggctgggggt 360
 ctgctggcga acggcagaat gcctaccgtg ctgcagtgcg tgaacgtgtc ggtgggtgtc 420
 gaggaggtct gcagtaagct ctatgacccg ctgtaccacc ccagcatgtt ctgcgcgggc 480
 ggagggcaag accagaagga ctccctgcaac ggtgactctg gggggcccct gatctgcaac 540
 ggtacttgc agggccttgt gtctttcggg aaagccccgt gtggccaagt tggcgtgcca 600
 ggtgtctaca ccaacctctg caaattcact gagtggatag agaaaaccgt ccaggccagt 660
 taactctggg gactgggaac ccatgaaatt gacccccaaa tacatcctgc ggaaggaatt 720
 caggaatatc tgttcccagc ccctcctccc tcaggccagc gagtccagc cccagcccc 780
 tcctccctca aaccaagggc acagatcccc agcccctcct ccctcagacc caggagtcca 840
 gacccccag cccctcctcc ctccagacca ggagtcacgc ccctcctccc tcagaccagc 900
 gagtccagac cccccagccc ctccctcctc agaccagggg gtccaggccc ccaaccctc 960
 ctccctcaga ctccagaggtc caagccccca acccctcctt cccagacccc agagggtccag 1020
 gtcccagccc ctccctcctc agaccagcgt gtccaatgcc acctagactc tcctgtaca 1080
 cagtgcctcc ttgtggcagc ttgacccaac cttaccagtt ggtttttcat tttttgtccc 1140
 tttcccttag atccagaaat aaagtctaag agaagcgcaa aaaaaaaaaa aaaaaaaaaa 1200
 aaaaaaaaaa aaaa 1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226
 acccagtatg tgcagggaga cggaacccca tgtgacagcc cactccacca gggttcccaa 60
 agaacctggc ccagtcataa tcattcatcc tgacagtggc aataatcacg ataaccagt 119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227
 acaattcata gggacgacca atgaggacag ggaatgaacc cggctctccc ccagccctga 60

tttttgctac	atatgggggtc	ccttttcatt	ctttgcaaaa	acactggggtt	ttctgagaac	120
acggacgggtt	cttagcacaa	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggtgggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaaaacgaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaaccccat	ctaacttcct	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaaagataa	cgtgacaact	accatctaga	420
ggaaagggtg	caccctcagc	agagaagccg	agagcttaac	tctggtcgtt	tccagagaca	480
acctgctggc	tgtcttggga	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggacatgaag	ctgaggacac	tgggcttcaa	cactgagttg	tcagagagg	600
gacaggctct	gccctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcacgc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagacccaaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

<210> 228

<211> 744

<212> DNA

<213> Homo sapien

<400> 228

actggagaca	ctgttgaact	tgatcaagac	ccagaccacc	ccaggctctcc	ttcgtgggat	60
gtcatgacgt	ttgacatacc	tttggaaacga	gcctcctcct	tgggaagatgg	aagaccgtgt	120
tcgtggccga	cctggcctct	cctggcctgt	ttcttaagat	gcgaggtcac	atttcaatgg	180
taggaaaagt	ggcttcgtaa	aatagaagag	cagtcactgt	ggaactacca	aatggcgaga	240
tgctcggtgc	acattgggggt	gctttgggat	aaaagattta	tgagccaact	attctctggc	300
accagattct	aggccagttt	gttcactga	agcttttccc	acagcagtcc	acctctgcag	360
gctggcagct	gaatggcttg	ccggtggctc	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaggcta	ggatgcttgt	ctagtgttct	tagctgtcac	gttggctcct	tccaggttgg	480
ccagacgggtg	ttggccactc	ccttctaaaa	cacaggcgcc	ctcctgggtga	cagtgaccgc	540
ccgtgggatg	ccttggccca	ttccagcagt	cccagttatg	catttcaagt	ttgggggttg	600
ttcttttcgt	taatgttcct	ctgtgttgtc	agctgtcttc	atttctctgg	ctaagcagca	660
ttgggagatg	tggaccagag	atccactcct	taagaaccag	tggcgaaaga	cactttcttt	720
cttcactctg	aagtagctgg	tggt				744

<210> 229

<211> 300

<212> DNA

<213> Homo sapien

<400> 229

cgagtctggg	ttttgtctat	aaagtttgat	ccctcctttt	ctcatccaaa	tcagtgtgaac	60
cattacacat	cgaaataaaa	gaaaggtggc	agacttgccc	aacgccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattattg	ttagaaacgt	caccacacagt	ccctgttaat	180
ttgtatgtga	cagccaactc	tgagaaggtc	ctatttttcc	acctgcagag	gatccagtct	240
cactaggctc	ctccttgccc	tcacactgga	gtctccgcca	gtgtgggtgc	ccactgacat	300

<210> 230

<211> 301

<212> DNA

<213> Homo sapien

<400> 230

cagcagaaca	aatacaaaata	tgaagagtgc	aaagatctca	taaaatctat	gctgaggaat	60
gagcgacagt	tcaaggagga	gaagcttgca	gagcagctca	agcaagctga	ggagctcagg	120
caataataag	tcctggttca	cactcaggaa	cgagagctga	cccagtttaag	ggagaagtgg	180
cgggaaaggga	gagatgcctc	cctctcattg	aatgagcatc	tccaggccct	cctcactccg	240
gatgaaccgg	acaagtccca	ggggcaggac	ctccaagaaa	cagacctcgg	ccgcgaccac	300
g						301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaatct ctgtcaggtc agctccagag aagccattag tcatttttagc 60
 caggaactcc aagtccacat ccttggcaac tggggacttg cgcaggttag ccttgaggat 120
 ggcaacacgg gactttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtta ccgccaatga tgaacacatt 240
 tttttttgtg gacatgccat ccattttctgt caggatctgg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtatt tctgtgagaag ttcaacacca aaactggaac atagttctcc ttcaagtgtt 60
 ggcgacagcg gggcttctctg attctggaat ataactttgt gtaaattaac agccacctat 120
 agaagagtcc atctgctgtg aaggagagac agagaactct gggttccgtc gtccgtgtcca 180
 cgtgctgtac caagtgtctg tgccagcctg ttacctgttc tcaactgaaaa tctggctaata 240
 gctcttctgt atcacttctg attctgacaa tcaatcaatc aatggcctag agcactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgactgact tcccagtaag gctctctaaag gggtaagtag gaggatccac aggatttgag 60
 atgctaagcg cccagagatc gtttgatcca accctcttat ttccagaggg gaaaatgggg 120
 cctagaagtt acagagcatc tagctggtgc gctggcacc cttggcctcac acagactccc 180
 gagtagctgg gactacaggc acacagtcac tgaagcaggc cctggttagca attctatgcg 240
 tacaaattaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatatgaat ttaaaaaatta caagcaaaga 60
 cattttattc atcatgatgc tttcttttgt ttcttctttt cgttttcttc tttttctttt 120
 tcaatttcag caacatactt ctcaatttct tcaggattta aaatcttgag ggattgatct 180
 cgctcatga cagcaagttc aatgtttttg ccacctgact gaaccacttc caggagtgcc 240
 ttgatcacca gcttaatggg cagatcatct gcttcaatgg cttcgtcagt atagttcttc 300
 t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235

tggggctgtg	catcaggcgg	gtttgagaaa	tattcaattc	tcagcagaag	ccagaatttg	60
aattccctca	tcttttaggg	aatcatttac	caggtttgga	gaggattcag	acagctcagg	120
tgctttcact	aatgtctctg	aacttctgtc	cctctttgtt	catggatagt	ccaataaata	180
atgttatctt	tgaactgatg	ctcataggag	agaatataag	aactctgagt	gatatcaaca	240
ttagggattc	aaagaaatat	tagatttaag	ctcacactgg	tca		283

<210> 236

<211> 301

<212> DNA

<213> Homo sapien

<400> 236

aggtcctcca	ccaactgcct	gaagcacggt	taaaattggg	aagaagtata	gtgcagcata	60
aatactttta	aatcgatcag	atttccctaa	cccacatgca	atcttcttca	ccagaagagg	120
tcggagcagc	atcattaata	ccaagcagaa	tgcgtaatag	ataaatacaa	tggtatatag	180
tgggtagacg	gcttcatgag	tacagtgtac	tgtgggtatcg	taatctggac	ttgggttgta	240
aagcatcgtg	taccagtcag	aaagcatcaa	tactcgacat	gaacgaatat	aaagaacacc	300
a						301

<210> 237

<211> 301

<212> DNA

<213> Homo sapien

<400> 237

cagtggtagt	ggtgggtggac	gtggcggttg	tcgtgggtgcc	ttttttgggtg	cccgtcacaa	60
actcaatttt	tgttcgetcc	tttttggcct	tttccaattt	gtccatctca	attttctggg	120
ccttggctaa	tgctcatag	taggagtcct	cagaccagcc	atggggatca	aacatacct	180
ttgggtagtt	ggtgccaaagc	tcgtcaatgg	cacagaatgg	atcagcttct	cgtaaatcta	240
gggttccgaa	attctttctt	cctttggata	atgtagttca	tatccattcc	ctcctttatc	300
t						301

<210> 238

<211> 301

<212> DNA

<213> Homo sapien

<400> 238

gggcagggttt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgactt	60
gttcacagtt	cagccccctg	ctcagaaaac	caacggggcca	gctaaggaga	ggaggaggga	120
ccttgagact	tccggagtcg	aggetctcca	gggttcccca	gcccataaat	cattttctgc	180
acccccctgcc	tggaagcag	ctccctgggg	ggtgggaatg	ggtgactaga	agggatttca	240
gtgtgggacc	cagggtctgt	tcttcacagt	aggaggtgga	agggatgact	aatttcttta	300
t						301

<210> 239

<211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct	aggaattct	ttatttagta	atgtcctaac	ataaaagttc	acataactgc	60
ttctgtcaaa	ccatgatact	gagctttgtg	acaacccaga	aataactaag	agaaggcaaa	120
cataatacct	tagagatcaa	gaaacattta	cacagttcaa	ctgtttaaaa	atagctcaac	180
attcagccag	tgagtagagt	gtgaatgcc	gcatacacag	tatacaggtc	cttcaggga	239

<210> 240

<211> 300
 <212> DNA
 <213> Homo sapien

<400> 240
 ggctctaagt aagcagcagc ttccacattt taacgcaggt ttacggtgat actgtccttt 60
 gggatctgcc ctccagtggg accttttaag gaagaagtgg gcccaagcta agttccacat 120
 gctgggtgag ccagatgact tctgttccct ggtcactttc ttcaatgggg cgaatggggg 180
 ctgccagggt tttaaaatca tgcttcatct tgaagcacac ggtcacttca cctcctcac 240
 gctgtgggtg tactttgatg aaaataccca ctttggtggc ctttctgaag ctataatgtc 300

<210> 241
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 241
 gaggtctggt gctgaggtct ctgggctagg aagaggaggt ctgtggagct ggaagccaga 60
 cctctttgga ggaaactcca gcagctatgt tgggtgtctct gaggggaatgc aacaaggctg 120
 ctctccatg tattggaaaa ctgcaaaactg gactcaactg gaaggaagtg ctgctgccag 180
 tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct 240
 tcctcctcct gtcatacggg ctctctcaag catcctttgt tgtcagggggc ctaaaaggga 300
 g 301

<210> 242
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 242
 ccgaggctct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt 60
 tgtggcattt cctcattttc tacattgtag aatcaagagt gtaaaataat gtatatcgat 120
 gtcttcaaga atatatcatt cttttttcac tagaaccat tcaaaatata agtcaagaat 180
 cttaatatca acaaatatat caagcaaact ggaaggcaga ataactacca taatttagta 240
 taagtaccca aagttttata aatcaaaaagc cctaatagata accattttta gaattcaatc 300
 a 301

<210> 243
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 243
 aggtaagtcc cagtttgaag ctcaaaagat ctggtatgag cataggctca tcgacgacat 60
 ggtggcccaa gctatgaaat cagagggagg cttcatctgg gcctgtaaaa actatgatgg 120
 tgacgtgcag tcggactctg tggcccaagg gtatggctct ctcggcatga tgaccagcgt 180
 gctggtttgt ccagatggca agacagtaga agcagaggct gccacggga ctgtaaccgc 240
 tcactaccgc atgttccaga aaggacagga gacgtccacc aatcccattg cttccatttt 300
 t 301

<210> 244
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 244
 gctggtttgc aagaatgaaa tgaatgatgc tacagctagg acttaacctt gaaatggaaa 60
 gtcattgcaat cccatttgca ggatctgtct gtgcacatgc ctctgtagag agcagcattc 120

ccagggacct	tggaaacagt	tgacactgta	aggtgcttgc	tccccaagac	acatcctaaa	180
aggtgttgta	atggtgaaaa	cgtcttcctt	ctttattgcc	ccttccttatt	tatgtgaaca	240
actgtttgtc	ttttgtgtat	cttttttaaa	ctgtaaagtt	caattgtgaa	aatgaatatc	300

<210> 245
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 245						
gtctgagtat	ttaaaatggt	attgaaatta	tccccaacca	atgttagaaa	agaaagaggt	60
tatatactta	gataaaaaat	gaggtgaatt	actatccatt	gaaatcatgc	tcttagaatt	120
aaggccagga	gatattgtca	ttaatgtara	cttcaggaca	ctagagtata	gcagccctat	180
gttttcaaag	agcagagatg	caattaaata	ttgttttagca	tcaaaaaggc	cactcaatac	240
agctaataaa	atgaaagacc	taatttctaa	agcaattcct	tataatttac	aaagttttaa	300
g						301

<210> 246
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 246						
ggtctgtcct	acaatgcctg	cttcttgaaa	gaagtcggca	ctttctagaa	tagctaaata	60
acctgggctt	attttaaaga	actatttgta	gctcagattg	gttttcctat	ggctaaaata	120
agtgccttct	gtgaaaatta	aataaaacag	ttaattcaaa	gccttgatat	atgttaccac	180
taacaatcat	actaaatata	ttttgaagta	caaagtttga	catgctctaa	agtgcacaacc	240
caaatgtgtc	ttacaaaaca	cgttcctaac	aaggtatgct	ttacactacc	aatgcagaaa	300
c						301

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247						
aggtcctttg	gcagggtctca	tggatcagag	ctcaaactgg	agggaaaggc	atttcgggta	60
gcctaagagg	gcgactggcg	gcagcacaac	caaggaaggc	aagggtgttt	ccccacgct	120
gtgtcctgtg	ttcaggtgcg	acacacaatc	ctcatgggaa	caggatcacc	catgcgctgc	180
ccttgatgat	caaggttggg	gcttaagtgg	attaagggag	gcaagttctg	ggttccttgc	240
cttttcaaac	catgaagtca	ggctctgtat	ccctcctttt	cctaactgat	attctaacta	300
a						301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248						
aggtccttgg	agatgccatt	tcagccgaag	gactcttctw	ttcggaagta	caccctcact	60
attaggaaga	ttcttagggg	taatttttct	gaggaaggag	aactagccaa	cttaagaatt	120
acaggaagaa	agtggtttgg	aagacagcca	aagaaataaa	agcagattaa	attgtatcag	180
gtacattcca	gcctgttggc	aactccataa	aaacatttca	gattttaatc	ccgaatttag	240
ctaattgagac	tggatttttg	ttttttatgt	tgtgtgtcgc	agagctaaaa	actcagttcc	300
c						301

<210> 249
 <211> 301

<212> DNA

<213> Homo sapien

<400> 249

gtccagagga	agcacctggt	gctgaactag	gcttgccctg	ctgtgaactt	gcacttggag	60
ccctgacgct	gctgttctcc	ccgaaaaacc	cgaccgacct	ccgcgatctc	cgccccgccc	120
ccagggagac	acagcagtga	ctcagagctg	gtcgcacact	gtgcctccct	cctcaccgcc	180
catcgtaatg	aattattttg	aaaattaatt	ccaccatcct	ttcagattct	ggatggaaag	240
actgaatctt	tgactcagaa	ttgtttgctg	aaaagaatga	tgtgactttc	ttagtcattt	300
a						301

<210> 250

<211> 301

<212> DNA

<213> Homo sapien

<400> 250

ggtctgtgac	aaggacttgc	aggctgtggg	aggcaagtga	cccttaacac	tacacttctc	60
cttatcttta	ttggcttgat	aaacataatt	atttctaaca	ctagcttatt	tccagttgcc	120
cataagcaca	tcagtacttt	tctctggctg	gaatagtaaa	ctaaagtatg	gtacatctac	180
ctaaaagact	actatgtgga	ataatacata	ctaatagaat	attacatgat	ttaaagacta	240
caataaaacc	aaacatgctt	ataacattaa	gaaaaacaat	aaagatacat	gattgaaacc	300
a						301

<210> 251

<211> 301

<212> DNA

<213> Homo sapien

<400> 251

gccgaggtcc	tacatttggc	ccagtttccc	cctgcatect	ctccaggggc	cctgcctcat	60
agacaacctc	atagagcata	ggagaactgg	ttgccctggg	ggcaggggga	ctgtctggat	120
ggcaggggtc	ctcaaaaatg	ccactgtcac	tgccaggaaa	tgcttctgag	cagtacacct	180
cattgggata	aatgaaaagc	ttcaagaaat	cttcaggctc	actctcttga	aggccccgaa	240
cctctggagg	ggggcagtg	aatcccagct	ccaggacgga	tcctgtcgaa	aagatatcct	300
c						301

<210> 252

<211> 301

<212> DNA

<213> Homo sapien

<400> 252

gcaaccaatc	actctgtttc	acgtgacttt	tatcaccata	caatttgtgg	catttcctca	60
ttttctacat	tgtagaatca	agagtgtaaa	taaatgtata	tcgatgtctt	caagaatata	120
tcattccttt	ttcactagga	acccattcaa	aatataagtc	aagaatctta	atatcaacaa	180
atatatcaag	caaactggaa	ggcagaataa	ctaccataat	ttagtataag	tacccaaagt	240
tttataaatc	aaaagcccta	atgataacca	tttttagaat	tcaatcatca	ctgtagaatc	300
a						301

<210> 253

<211> 301

<212> DNA

<213> Homo sapien

<400> 253

ttccctaaga	agatgttatt	ttgttgggtt	ttgttcccc	tccatctoga	ttctcgtacc	60
caactaaaaa	aaaaaaataa	agaaaaaatg	tgctgcgttc	tgaaaaataa	ctccttagct	120

```

tggtctgatt gttttcagac cttaaaatat aaacttgttt cacaagcttt aatccatgtg      180
gatttttttt cttagagaac cacaaaacat aaaaggagca agtcggactg aatacctgtt      240
tccatagtgc ccacagggtg ttcctcacat tttctccata ggaaaatgct ttttccaag      300
g                                                                                   301

```

```

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 254
cgctgcgcct ttcccttggg ggaggggcaa ggccagaggg ggtccaagtg cagcacgagg      60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc      120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa      180
gaaaaaaata aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc      240
acttaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc      300
t                                                                                   301

```

```

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

```

```

<400> 255
agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtct tttattataa      60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagtt tgacttggat      120
tgggattttg ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg      180
aggaaaaagg actggaggtg gaatctttat aaaaaacaag agtgattgag gcagattgta      240
aacattatta aaaaacaaga aacaaacaaa aaaatagaga aaaaaaccac cccaacacac      300
aa                                                                                   302

```

```

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 256
gttccagaaa acattgaagg tggcttccca aagtctaact agggataccc cctctagcct      60
aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc      120
acccccaaaa gcctggacac cttgagcaca cagttatgac caggacagac tcatctctat      180
aggcaaatag ctgctggcaa actggcatta cctggtttgt ggggatgggg gggcaagtgt      240
gtggcctctc ggcttgggta gcaagaacat tcagggtagg cctaagttn tan tcgtgttagt      300
t                                                                                   301

```

```

<210> 257
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 257
gttgtggagg aactctggct tgetcattaa gtccactga ttttactat cccctgaatt      60
tccccactta tttttgtctt tcaactatgc aggccttaga agaggtctac ctgcctccag      120
tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat      180

```


gtcacattac tcccttcagt gattttcttgt agaagtgcc aatccctgaat gccaccaaga 240
 tcttaatctt cacatcttta atcttatctc ttgtactcct ctttacaccg gagaaggctc 300
 c 301

<210> 258
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (301)
 <223> n = A,T,C or G

<400> 258
 cagcagtagt agatgccgta tgccagcacg cccagcactc ccaggatcag caccagcacc 60
 aggggcccag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagcccacc 120
 cccaggggcaa caagaatcca ataccaggac tggggcaaat cttcaaagat cttaacactg 180
 atgtctcggg cattgaggct gtcaataana cgctgatccc ctgctgtatg gtggtgtcat 240
 tggatgatccc tgggagcgcc ggtggagtaa cgttgggtcca tggaaagcag cgcccacaac 300
 t 301

<210> 259
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (301)
 <223> n = A,T,C or G

<400> 259
 tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg 60
 gtgtcctgaa gtgatttgga cccctgaggg cagacaccta agtaggaatc ccagtgggaa 120
 gcaaagccat aaggaagccc aggattcctt gtgatcagga agtgggcccag gaaggctctgt 180
 tccagctcac atctcatctg catgcagcac ggaccggatg cgcccactgg gtcttggctt 240
 cctcccacac ttctcaagca gtgtccttgt tgagccattt gcaccccttg ctccagggtg 300
 c 301

<210> 260
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 260
 ttttttttct ccctaaggaa aaagaaggaa caagtctcat aaaaccaa at aagcaatggt 60
 aagggtgtctt aacttgaaaa agattaggag tcaactggttt acaagttata attgaatgaa 120
 agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaaca caggattaac 180
 tagggcaaaa taaataagtg tgtggaagcc ctgataagt ctttaataaac agactgattc 240
 actgagacat cagtacctgc ccgggcggcc gctcgagccg aattctgcag atatccatca 300
 c 301

<210> 261
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 261

aaatattcga	gcaaactctg	taactaatgt	gtctccataa	aaggctttga	actcagtgaa	60
tctgcttcca	tcacagattc	tagcaatgac	ctctcggaca	tcaaagctcc	tcttaaggtt	120
agcaccaact	attccataca	attcatcagc	aggaaataaa	ggctcttcag	aagggttcaat	180
ggtgacatcc	aattttcttct	gataatttag	attcctcaca	accttcctag	ttaagtgaag	240
ggcatgatga	tcattccaaag	cccagtgggc	acttactcca	gactttctgc	aatgaagatc	300
a						301

<210> 262

<211> 301

<212> DNA

<213> Homo sapien

<400> 262

gaggagagcc	tgttacagca	tttgtaagca	cagaatactc	caggagtatt	tgtaattgtc	60
tgtgagcttc	ttgccgcaag	tctctcagaa	atttaaaaag	atgcaaattc	ctgagtcacc	120
cctagacttc	ctaaaccaga	tcctctgggg	ctggaacctg	gcactctgca	tttgtaatga	180
gggctttctg	gtgcacacct	aattttgtgc	atctttgccc	taaatcctgg	attagtgccc	240
catcattacc	cccacattat	aatgggatag	attcagagca	gatactctcc	agcaaagaat	300
c						301

<210> 263

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (301)

<223> n = A,T,C or G

<400> 263

tttagcttgt	ggtaaatgac	tcacaaaact	gattttaaaa	tcaagttaat	gtgaattttg	60
aaaattacta	cttaatccta	attcacaata	acaatggcat	taagggttga	cttgagttgg	120
ttcttagtat	tatttatggg	aaataggctc	ttaccacttg	caaataactg	gccacatcat	180
taatgactga	cttcccagta	aggctctcta	aggggtaagt	angaggatcc	acaggatttg	240
agatgctaag	gccccagaga	tcgtttgatc	caaccctctt	attttcagag	gggaaaatgg	300
g						301

<210> 264

<211> 301

<212> DNA

<213> Homo sapien

<400> 264

aaagacgtta	aaccactcta	ctaccacttg	tggaactctc	aaagggtaaa	tgacaaaasc	60
aatgaatgac	tctaaaaaca	atattttacat	ttaatggttt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagaattgt	aacattttta	gaaaaccata	scatttgaca	gatgagaaaag	180
ctcaattata	gatgcaaagt	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
acccttcata	taaattcact	atcttggttt	gaggcactcc	ataaaatgta	tcacgtgcat	300
a						301

<210> 265

<211> 301

<212> DNA

<213> Homo sapien

<400> 265

tgcccaagtt atgtgtaagt gtatccgcac ccagaggtaa aactacactg tcattcttgt	60
cttcttgtga cgcagtattt cttctctggg gagaagccgg gaagtcttct cctggctcta	120
catattcttg gaagtctcta atcaactttt gttccatttg ttctatttct tcaggaggga	180
ttttcagttt gtcaacatgt tctctaaca cacttgccca tttctgtaaa gaatccaaaag	240
cagtccaagg ctttgacatg tcaacaacca gcataactag agtatccttc agagatacgg	300
c	301

<210> 266

<211> 301

<212> DNA

<213> Homo sapien

<400> 266

taccgtctgc ccttctctcc atccaggcca tctgcgaatc tacatgggtc ctctattctg	60
acaccagatc actcttttct ctaccacag gcttgctatg agcaagagac acaacctctc	120
ctcttctgtg ttccagcttc ttttctgtt cttcccacc ctttaagttct attcctgggg	180
atagagacac caatacccat aacctctctc ctaagcctcc ttataaccca ggggtgcacag	240
cacagactcc tgacaactgg taaggccaat gaactgggag ctacacagctg gctgtgctg	300
a	301

<210> 267

<211> 301

<212> DNA

<213> Homo sapien

<400> 267

aaagagcaca ggccagctca gcctgccctg gccatctaga ctcagcctgg ctccatgggg	60
gttctcagtg ctgagtcocat ccaggaaaag ctcacctaga cttcttgagg ctgaatcttc	120
atcttcacag gcagcttctg agagcctgat attcctagcc ttgatgggtc ggagtaaagc	180
ctcattctga ttctctctct tcttttcttt caagttgggt ttcctcacat cctctgttc	240
aattcgttc agcttgtctg ctttagccct catttccaga agcttcttct ctttggcatc	300
t	301

<210> 268

<211> 301

<212> DNA

<213> Homo sapien

<400> 268

aatgtctcac tcaactactt cccagcctac cgtggcctaa ttctgggagt tttcttctta	60
gatcttggga gagctgggtc ttctaaggag aaggaggaag gacagatgta actttggatc	120
tcgaagagga agtctaattg aagtaattag tcaacgggtc ttgttttagac tcttgggaata	180
tgctgggtgg ctcagtgagc ccttttggag aaagcaagta ttattcttaa ggagtaacca	240
cttcccattg ttctactttc taccatcatc aattgtatat tatgtattct ttggagaact	300
a	301

<210> 269

<211> 301

<212> DNA

<213> Homo sapien

<400> 269

taacaatata cactagctat ctttttaact gtccatcatt agcaccaatg aagattcaat	60
aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagtttaact	120
atagtcacag accttaaata ttcacattgt tttctatgct tactgaaaat aagttcacta	180
cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca ccccaatta	240
tacagtagca caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc	300
t	301

<210> 270
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 270
 cattgaagag cttttgcgaa acatcagaac acaagtgcctt ataaaattaa ttaagcctta 60
 cacaagaata catattcctt ttattttctaa ggagttaaac atagatgtag ctgatgtgga 120
 gagcttgctg gtgcagtgc aatttgataa cactattcat ggccgaattg atcaagtcaa 180
 ccaactcctt gaactggatc atcagaagaa ggggtggcgca cgatatactg cactagataa 240
 tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggcctt aacagaaaac 300
 a 301

<210> 271
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 271
 aaaaggttct cataagatta acaattttaa taaatatttg atagaacatt ctttctcatt 60
 tttatagctc atcttttagg ttgatattca gttcatgcct cccttgctgt tcttgatcca 120
 gaattgcaat cacttcatca gcttgatttc gctccaattc tctataaagt gggccaagg 180
 tgaaccacag agccacagca cacctctttc ccttggtgac tgccttcacc ccatganggt 240
 tctctcctcc agatganaac tgatcatgcg cccacatttt gggttttata gaagcagtca 300
 c 301

<210> 272
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 272
 taaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaagtgc 60
 ttatcagaaa accaaatgag cctggaatct tcataatacc taaacatgcc gtatttagga 120
 tccaataatt cctcatgat gagcaagaaa aattctttgc gcacccctcc tgcattccaca 180
 gcatcttctc caacaaatat aaccttgagt ggcttcttgc aatctatgtt ctttgttttc 240
 ctaaggactt ccattgcac tcctacaata ttttctctac gcaccactag aattaagcag 300
 g 301

<210> 273
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 273
 acatgtgtgt atgtgtatct ttgggaaaaa aanaagacat cttgtttayt atttttttgg 60
 agagangctg ggacatggat aatcacwtaa tttgctayta tyactttaat ctgactyga 120

```

gaaccgtcta aaaataaaat ttaccatgtc dtatattcct tatagtatgc ttatttcacc 180
tlytttctgt ccagagagag tatcagtgac ananatttma gggatgaamac atgmattggg 240
gggacttnty tttacngagm accctgcccc sgcgcctcgc makcngantt ccgcsananc 300
t 301

```

```

<210> 274
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 274
cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg 60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa 120
tgattctctt tggaatctga atgagatcaa gaggccagct ttagcttggtg gaaaagtcca 180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataatgaggt aaccgaaggc 240
aattgtgctt cttttgataa gaagctttct tggatcatatc aggaaattcc aganaaagtc 300
c 301

```

```

<210> 275
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 275
tcggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaacc acagaaaatg 60
gggtgaaatt ggccaacttt ctattaactt atgttggaac ttttgccacc aacagtaagc 120
tgcccttctt aataaaagaa aattgaaagg tttctcacta aacggaatta agtagtgagg 180
tcaagagact ccagggcctc agcgtacctg cccgggcggc cgctcgaagc cgaattctgc 240
agatattcat cacactggcg gncgctcgan catgcatcta gaaggnccaa ttcgccctat 300
a 301

```

```

<210> 276
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 276
tgtacacata ctcaataaat aaatgactgc attgtgggtat tattactata ctgattatat 60
ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tatacaaaat 120
taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180
caatacattt aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240
aaaactattc agtatgtttc ctttgcttca tgtctgagaa ggctctcctt caatggggat 300
g 301

```

```

<210> 277
<211> 301
<212> DNA
<213> Homo sapien

```

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaac ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaaacactct caatgccccca ccctcgtcct 180
 caccatagtg gggagactaa agtggccacg gatttgcctt anggtgtgcag tgcgttctga 240
 gttcncgtgc gattacatct gaccagtctc ctttttccga agtcntccg ttcaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat 60
 aacatatcaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgtca 120
 cagtctctac tggtattatg cattacctgg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacaggttt 240
 tatgtgtttc tcgtaacttt atggantagg tactcggccg cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa tgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc 120
 ttagaccttt accttccagc caccacacag tgcttgatat ttcagagtca gtcattgggt 180
 atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac 240
 catctgtttt cacatgaaat gccacacaca tagaactcca acatcaattt cattgcacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtactggag ttttctctcc ctgtgaaaac gtaactactg ttgggagtga attgaggatg 60
 tagaaagggt gtggaaccaa attgtggtca atggaaatag gagaatatgg ttctcactct 120

```

tgagaaaaaa acctaagatt agcccaggtg gttgcctgta acttcagttt ttctgcctgg 180
gtttgatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga 240
cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag 300
t 301

```

```

<210> 281
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 281
aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatattc 60
gccgagcaat ccaaatcctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa 180
tgtgtagcac actgcgatta cagctaaata accegtattt gtgtgtcatg tttgcatttc 240
tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtacctc 300
g 301

```

```

<210> 282
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 282
cagggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60
tccagaaccc aaaaattaag aaattcaaaa agacattttg tgggcacctg ctacacacaga 120
agcgagagaag caaagcccag gcagaaccat gtaacctta cagctcagcc tgcacagaag 180
cgcagaagca aagcccaggc agaaccatgc taaccttaca gctcagcctg cacagaagcg 240
cagaagcaaa gccccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300
a 301

```

```

<210> 283
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 283
atctgtatac ggcagacaaa ctttatarag tgtagagagg tgagcgaaag gatgcaaaaag 60
cactttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120
gtgcatctcc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180
acttcccagg ttttatgcaa aaattttgtt aaattctata atggtgatat gcatctttta 240
ggaaacatat acatttttaa aaatctattt tatgtaagaa ctgacagacg aatttgcttt 300
g 301

```

```

<210> 284
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 284
cagggtacaaa acgctattaa gtggcttaga atttgaacat ttgtggctct tattttacttt 60
gcttcgtgtg tgggcaaaagc aacatcttcc ctaaaatat attaccaaga aaagcaagaa 120
gcagattagg tttttgacaa aacaaacagg ccaaaaaggg gctgacctgg agcagagcat 180
ggtagagagg aaggcatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
actggagtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gttagaaatt 300
a 301

```

```

<210> 285

```

<211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 285
 acatcaccat gatcggatcc cccacccatt atacgttgta tgtttacata aatactcttc 60
 aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcatccc aatctcctaac 120
 caggaaagca aatgctatctt acagacctgc aagccctccc tcaaacnaaa ctatctctgg 180
 attaaatatg tctgacttct tttgaggtca cagcactagg caaatgctat ttacgatctg 240
 caaaagctgt ttgaagagtc aaagccccc tgtgaacacg atttctggac cctgtaacag 300
 t 301

<210> 286
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 286
 taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct 60
 tgtatattat ttttgcccta cagtggatca ttctagtagg aaaggacagt aagatttttt 120
 atcaaaatgt gtcatgccag taagagatgt tatattcttt tctcatttct tccccaccca 180
 aaaataagct accatatagc ttataagtct caaatttttg ctttttacta aaatgtgatt 240
 gtttctgttc atttgttatg cttcatcacc tatattaggc aaattccatt ttttcccttg 300
 t 301

<210> 287
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 287
 tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60
 cccagaagga acgtagagat cagatattac aacagctttg ttttgagggg tagaaatatg 120
 aaatgatttg gttatgaacg cacagttagg gcagcagggc cagaatcctg accctctgcc 180
 ccgtgggttat ctcctcccca gcttggtgc ctcagtgtat cacagtattc cattttgttt 240
 gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggtaatgc 300
 t 301

<210> 288
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 288
 gtacaccta ctgcaaggac agctgaggaa tgtaatgggc agccgctttt aaagaagtag 60
 agtcaatagg aagacaaatt ccagttccag ctcagtctgg gtatctgcaa agctgcaaaa 120
 gatcttttaa gacaatttca agagaatatt tccttaaagt tggcaatttg gagatcatac 180
 aaaagcatct gcttttgtga ttttaatttag ctcactctgg cactggaaga atccaaacag 240
 tctgccttaa ttttggtatg atgcatgatg gaaattcaat aatttagaaa gttaaaaaaa 300
 a 301

<210> 289
 <211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 289

```

ggtacactgt ttccatgta tgtttctaca cattgctacc tcagtgtcc tggaaactta      60
gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg    120
ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa    180
cgttctataa atgaatgtgc tgaagcaaag tgcccatggg ggcggcgaan aagagaaaga    240
tgtgttttgt tttggactct ctgtgggtccc ttccaatgct gtgggtttcc aaccagnnga    300
a                                                                    301

```

<210> 290

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 290

```

aactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac      60
tgactgatct gttcatttct ctcacagctc ttaccccaa aagcttttcc accctaagtg    120
ttctgacctc cttttctaata cacagtaggg atagaggcag anccacctac aatgaacatg    180
gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg cttagcagtgc    240
tgccctgaac aaaaacattt ctccatgtct cattttcttc atgcctcaag taacagtgag    300
a                                                                    301

```

<210> 291

<211> 301

<212> DNA

<213> Homo sapien

<400> 291

```

caggtacca tttcttctat cctagaaaca tttcatttta tgttgttgaa acataacaac      60
tatatcagct agattttttt tctatgcttt acctgctatg gaaaatttga cacattctgc    120
tttactcttt tgtttatagg tgaatcacia aatgtatttt tatgtattct gtagttcaat    180
agccatggct gtttaacttca ttttaatttt ttagcataaa gacattatga aaaggcctaa    240
acatgagctt cacttcccca ctaactaatt agcatctggt atttcttaac cgtaatgcct    300
a                                                                    301

```

<210> 292

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 292

```

accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc      60
tgtattaaat aatttttaag tttaaaagat aaaataccat cattttaaat gttgggtattc      120
aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg      180
ggaaatatag tasttyatga atgttnatta aattccagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtcctat atgccacaaa cacatttcca taacttgaaa      300
a                                                                    301

```

<210> 293

<211> 301

<212> DNA

<213> Homo sapien

<400> 293

```

ggtaccaagt gctgggtgcc gctgtgtacc tgttctcact gaaaagtctg gctaattgctc      60
ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactggt      120
aacacaaaacg tccactagcaa agtagcaaca gctttaagtc taaatacaaaa gctgttctgt      180
gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg      240
ccgcgaccac gctaagccga attctgcaga tatccatcac actggcgggc gctcgagcat      300
g                                                                    301

```

<210> 294

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (301)

<223> n = A,T,C or G

<400> 294

```

tgaccataa caatatacac tagctatctt tttactgtc catcattagc accaatgaag      60
attcaataaa attaccttta ttcacacatc tcaaaaacaat tctgcaaatt cttagtgaag      120
tttaactata gtcacaganc ttaaattatc acattgtttt ctatgtctac tgaaaaataag      180
ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc      240
cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt      300
t                                                                    301

```

<210> 295

<211> 305

<212> DNA

<213> Homo sapien

<400> 295

```

gtactctttc tctcccctcc tctgaattta attctttcaa cttgcaattt gcaaggatta      60
cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac      120
ttggtttgtg aatccatctt gctttttccc cattggaact agtcattaac ccatctctga      180
actggtagaa aaacrtctga agagctagtc tatcagcatc tgacagggtga attggatggg      240
tctcagaacc atttcaccca gacagcctgt ttctatcctg ttttaataaat tagtttgggt      300
tctct                                                                    305

```

<210> 296

<211> 301

<212> DNA

<213> Homo sapien

<400> 296

```

aggtagctatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct      60

```

```

cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg      120
attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac      180
tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt      240
tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg      300
c                                                                    301

```

<210> 297

<211> 300

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(300)

<223> n = A,T,C or G

<400> 297

```

actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta      60
aaggttttga aaaccttgaa ggagaatcat tttgacaaga agtacttaag agtctagaga      120
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt      180
tccatcattg ggagtgcact ggccatccct caaaatttgt ctgggctggc ctgagtggtc      240
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg      300

```

<210> 298

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 298

```

tatggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc ccctcccgcg      60
ggcatctgag agacctggtg ttccagtgtt tctggaaatg ggtcccagtg ccgcccggctg      120
tgaagctctc agatcaatca cgggaagggc ctggcggttg tggccacctg gaaccaccct      180
gtcctgtctg ttacatttc actaycagg tttctctggg cattacnatt tgttccccta      240
caacagtgac ctgtgcattc tgctgtggcc tgctgtgtct gcaggtggct ctcagcgagg      300
t                                                                    301

```

<210> 299

<211> 301

<212> DNA

<213> Homo sapien

<400> 299

```

gttttgagac ggagtttcac tcttggtgcc cagactggac tgcaatggca gggctctctgc      60
tactgcacc ctctgcctcc caggttcgag caattctcct gcctcagcct cccaggtagc      120
tggtattgca ggctcacgcc accataccca gctaattttt ttgtattttt agtagagacg      180
gagtttcgcc atgttgacca gctgggtctca aactcctgac ctcaagcgac ctgcctgcct      240
cggcctccca aagtgtctga attataggca tgagtcaaca cgcccagcct aaagatatatt      300
t                                                                    301

```

<210> 300

<211> 301

<212> DNA

<213> Homo sapien

<400> 300
 attcagttttt atttgcgtgcc ccagtatctg taaccaggag tgccacaaaa tcttgccaga 60
 tatgtccac acccactggg aaaggctccc acctggctac ttcctctatc agctgggtca 120
 gctgcattcc acaagggttct cagcctaata agtttacta cctgccagtc tcaaaactta 180
 gtaaagcaag accatgacat tccccacgg aaatcagagt ttgccccacc gtcttggtac 240
 tataaagcct gcctctaaca gtccttgctt cttcacacca atcccgagcg catcccccat 300
 g 301

<210> 301
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 301
 ttaaattttt gagaggataa aaaggacaaa taatctagaa atgtgtcttc ttcagtctgc 60
 agaggacccc aggtctccaa gcaaccacat ggtcaagggc atgaataatt aaaagttggt 120
 gggaaactcac aaagaccctc agagctgaga caccacacac agtgggagct cacaaagacc 180
 ctcagagctg agacaccac aacagtggga gtcacaaaag accctcagag ctgagacacc 240
 cacaacagca cctcgttcag ctgccacatg tgtgaataag gatgcaatgt ccagaagtgt 300
 t 301

<210> 302
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 302
 aggtacacat ttagcttgtg gtaaagtact cacaaaactg attttaaaat caagttaatg 60
 tgaattttga aaattactac ttaatcctaa ttcacaataa caatggcatt aaggtttgac 120
 ttgagttggt tcttagtatt atttatggta aataggctct taccacttgc aaataactgg 180
 ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca 240
 caggatttga gatgctaagg ccccagagat cgtttgatcc aaccctctta ttttcagagg 300
 g 301

<210> 303
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 303
 aggtaccaac tgtggaaata ggtagaggat cattttttct ttccatatca actaagttgt 60
 atattgtttt ttgacagttt aacacatctt cttctgtcag agattctttc acaatagcac 120
 tggctaattg aactaccgct tgcattgtaa aaatgggtgt ttgtgaaatg atcataggcc 180
 agtaacgggt atgtttttct aactgatctt ttgctcgttc caaagggaacc tcaagacttc 240
 catcgatttt atatctgggg tctagaaaag gagttaatct gttttccctc ataaattcac 300
 c 301

<210> 304
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 304
 acatggatgt tattttgcag actgtcaacc tgaatttgta tttgcttgac attgcctaata 60
 tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtggc 120
 ctttttagtg tatcatatca ggaatcatct cacattgggt ttgtgccatta ctgggtgcagt 180
 gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga 240

ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct 300
c 301

<210> 305

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 305

gangtacagc	gtggtcaagg	taacaagaag	aaaaaaatgt	gagtggcatc	ctgggatgag	60
cagggggaca	gacctggaca	gacacgttgt	catttgctgc	tgtgggtagg	aaaatgggag	120
taaaggagga	gaaacagata	caaaatctcc	aactcagtat	taaggatttc	tcatgcctag	180
aatattggta	gaaacaagaa	tacattcata	tggcaaataa	ctaaccatgg	tggaacaaaa	240
ttctgggatt	taagttggat	accaangaaa	ttgtattaaa	agagctgttc	atggaataag	300
a						301

<210> 306

<211> 8

<212> PRT

<213> Homo sapien

<400> 306

Val	Leu	Gly	Trp	Val	Ala	Glu	Leu
1				5			

<210> 307

<211> 637

<212> DNA

<213> Homo sapien

<400> 307

acaggggratg	aagggaaagg	gagaggatga	ggaagcccc	ctggggattt	ggtttgggtcc	60
ttgtgatcag	gtggtctatg	gggcttatcc	ctacaaagaa	gaatccagaa	atagggggcac	120
attgaggaat	gatacttgag	cccaaagagc	attcaatcat	tgttttattt	gccttmtttt	180
cacaccattg	gtgagggagg	gattaccacc	ctgggggttat	gaagatgggt	gaacacccca	240
cacatagcac	cggagatatg	agatcaacag	tttcttagcc	atagagattc	acagcccaga	300
gcaggaggac	gcttgcacac	catgcaggat	gacatggggg	atgcgctcgg	gattgggtgtg	360
aagaagcaag	gactgttaga	ggcaggcttt	atagtaacaa	gacgggtggg	caaactctga	420
tttcggtggg	ggaatgtcat	ggtcttgctt	tactaagttt	tgagactggc	aggtagtgaa	480
actcattagg	ctgagaacct	tgtggaatgc	acttgaccca	sctgatagag	gaagtagcca	540
ggtgggagcc	tttcccagtg	ggtgtgggac	atatctggca	agattttgtg	gcactcctgg	600
ttacagatac	tggggcagca	aataaaaactg	aatcttg			637

<210> 308

<211> 647

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(647)

<223> n = A,T,C or G

<400> 308

acgattttca	ttatcatgta	aatcgggtca	ctcaaggggc	caaccacagc	tgggagccac	60
tgctcagggg	aaggttcata	tgggactttc	tactgcccaa	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccaccctct	gaccctttgg	aactcctctg	accctttaga	acaagcctac	ctaatatctg	240
ctagagaaaa	gaccaacaac	ggcctcaaag	gatctcttac	catgaaggtc	tcagctaatt	300
cttgggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaaggg	tcaatttgct	360
cattttgtgt	gtggataaag	tcaggatgcc	caggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taaccatagg	ttatggggaa	caaaacaaca	tcaaagtcac	480
tgtatcaatt	gccatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	tttttctcct	gcttctgact	tgataaaagg	ggaccgt		647

<210> 309

<211> 460

<212> DNA

<213> Homo sapien

<400> 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaaaagc	cagaacaaca	tgtgatagat	60
aatatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaaatac	tcatcatttt	tggccagcag	ttgtttgatc	180
accaaacatc	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtccg	240
ggggaaattta	ttcctggcaa	ttttaattgg	actccttatg	tgagagcagc	ggctacccag	300
ctgggggtggt	ggagcgaacc	cgtcactagt	ggacatgcag	tggcagagct	cctggtaacc	360
acctagagga	atacacaggc	acatgtgtga	tgccaagcgt	gacacctgta	gcactcaaatt	420
ttgtcttggt	tttgtctttc	ggtgtgtaag	attcttaagt			460

<210> 310

<211> 539

<212> DNA

<213> Homo sapien

<400> 310

acgggactta	tcaaataaag	ataggaaaag	aagaaaactc	aaatattata	ggcagaaatg	60
ctaaagggtt	taaaatatgt	caggattgga	agaaggcatg	gataaagaac	aaagttcagt	120
taggaaaagag	aaacacagaa	ggaagagaca	caataaaaagt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagatttggt	ggaaatgggt	tggtttggtg	tatggtatgt	atcttagcaa	240
taatctttat	ggcagagaaa	gctaaaatcc	tttagcttgc	gtgaatgatc	acttgctgaa	300
ttcctcaagg	taggcatgat	gaaggagggt	ttagaggaga	cacagacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaaggaag	aacttatggc	480
atattttcac	ccccacaaaa	gtcagttaaa	tattgggaca	ctaaccatcc	aggtcaaga	539

<210> 311

<211> 526

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (526)

<223> n = A,T,C or G

<400> 311

caaatttgag	ccaatgacat	agaattttac	aaatcaagaa	gcttattctg	gggccatttc	60
ttttgacgtt	ttctctaaac	tactaaagag	gcattaatga	tccataaatt	atattatcta	120
catttacagc	atttaaaatg	tgttcagcat	gaaatattag	ctacagggga	agctaaataa	180

attaaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg	240
tttttcacaa gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa	300
aaaatgggga aactctgaag gggttttaagt atcttacctg aagctacaga ctccataacc	360
tctctttaca gggagctcct gcagccccta cagaaatgag tggctgagat tcttgattgc	420
acagcaagag cttctcatct aaaccctttc ccttttttagt atctgtgtat caagtataaa	480
agttctataa actgtagtnt acttatttta atccccaaag cacagt	526

<210> 312

<211> 500

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (500)

<223> n = A,T,C or G

<400> 312

cctctctctc cccaccccct gactctagag aactggggtt tctcccagta ctccagcaat	60
tcattttctga aagcagttga gccactttat tccaaagtac actgcagatg ttcaaactct	120
ccattttctct ttcccttcca cctgccagtt ttgctgactc tcaacttgct atgagtgtaa	180
gcattaagga cattatgctt cttecgattct gaagacaggc cctgctcatg gatgactctg	240
gcttcttagg aaaatatttt tcttccaaaa tcagtaggaa atctaaactt atcccctctt	300
tgcagatgtc tagcagcttc agacatttgg ttaagaacct atgggaaaaa aaaaaatcct	360
tgctaattgtg gtttcctttg taaaccanga ttcttatttg nctgggtatag aatatcagct	420
ctgaacgtgt ggtaaagatt tttgtgtttg aatataggag aaatcagttt gctgaaaagt	480
tagtcttaat tatctattgg	500

<210> 313

<211> 718

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (718)

<223> n = A,T,C or G

<400> 313

ggagatttgt gtggtttgca gccgagggag accaggaaga tctgcatggt gggaaggacc	60
tgatgataca gaggtgagaa ataagaaagg ctgctgactt taccatctga ggccacacat	120
ctgctgaaat ggagataatt aacatcacta gaaacagcaa gatgacaata taatgtctaa	180
gtagtgacat gtttttgac atttccagcc ctttttaata tccacacaca caggaagcac	240
aaaaggaagc acagagatcc ctgggagaaa tgcccggccg ccattcttggg tcatcgatga	300
gcctcgccct gtgcctgntc ccgcttggtga gggaaggaca ttagaaaaatg aattgatgtg	360
ttccttaaaag gatggcagga aaacagatcc tgttgtggat atttatttga acgggattac	420
agatttgaaa tgaagtcaca aagtgagcat taccaatgag aggaaaacag acgagaaaat	480
cttgatggtt cacaagacat gcaacaaaca aaatggaata ctgtgatgac acgagcagcc	540
aactggggag gagataccac ggggcagagg tcaggattct ggccctgctg cctaactgtg	600
cgttatacca atcatttcta tttctaccct caaacaagct gtngaataac tgacttacgg	660
ttcttntggc ccacattttc atnatccacc cententttt aannttantc caaantgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttattttac	attacagaaa	aaacatcaag	acaatgtata	ctattttcaaa	tatatccata	60
cataatcaaa	tatagctgta	gtacatgttt	tcattgggtg	agattaccac	aaatgcaagg	120
caacatgtgt	agatctcttg	tcttattctt	ttgtctataa	tactgtattg	tgtagtccaa	180
gctctcggta	gtccagccac	tgtgaaacat	gctcccttta	gattaacctc	gtggacgctc	240
ttgttgtatt	gctgaactgt	agtgcctgt	attttgcttc	tgtctgtgaa	ttctgttgct	300
tctggggcat	ttccttgtga	tgcagaggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315
 <211> 341
 <212> DNA
 <213> Homo sapien

<400> 315						
taccacctcc	ccgctggcac	tgatgagccg	catcaccatg	gtcaccagca	ccatgaaggc	60
ataggtgatg	atgaggacat	ggaatggggc	cccaaggatg	gtctgtccaa	agaagcgagt	120
gacccccatt	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcaccagc	tccccgacca	gccggatata	gtccttaggg	gtcatgtagg	cttccctgaag	240
tagcttctgc	tgtaagaggg	tgttgtcccg	ggggctcgtg	cggttattgg	tcctgggctt	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 316						
agactgggca	agactcttac	gccccacact	gcaatttggt	cttgttgccg	tatccattta	60
tgtgggcctt	tctcgagttt	ctgattataa	acaccactgg	agcgatgtgt	tgactggact	120
cattcagggg	gctctgggtg	caatattagt	t			151

<210> 317
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 317						
agaactagtg	gatacctaag	aaataacctga	aacatatatt	ggcattttatc	aatgggtcaa	60
atcttcattt	atctctggcc	ttaacacctgg	ctcctgaggc	tgcgggccagc	agatcccagg	120
ccagggtctt	gttcttgcca	cacctgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318						
actggtggga	ggcgtgtttt	agttggetgt	tttcagaggg	gtcttttcgga	gggacctcct	60
gctgcaggct	ggagtgtctt	tattcctggc	gggagaccgc	acattccact	gctgaggctg	120
tgggggcggg	ttatcaggca	gtgataaaca	t			151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319						
aactagtggg	tccagagcta	taggtacagt	gtgatctcag	ctttgcaaac	acattttcta	60
catagatagt	actaggtatt	aatagatatg	taaagaaaga	aatcacacca	ttaataatgg	120

taagattggg tttatgtgat tttagtgggt a 151

<210> 320
<211> 150
<212> DNA
<213> Homo sapien

<400> 320
aactagtgga tccactagtc cagtgtggtg gaattccatt gtgttgggggt tctagatcgc 60
gagcggctgc cctttttttt tttttttttg ggggggaatt tttttttttt aatagttatt 120
gagtgttcta cagcttacag taaataccat 150

<210> 321
<211> 151
<212> DNA
<213> Homo sapien

<400> 321
agcaacttttg tttttcatcc aggttatttt aggccttagga tttcctctca cactgcagtt 60
taggggtggca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
tgccctctgag aaatcaaagt cttcatacac t 151

<210> 322
<211> 151
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(151)
<223> n = A,T,C or G

<400> 322
atccagcadc ttctctggtt tcttgccttc ctttttcttc ttcttasatt ctgcttgagg 60
tttgggcttg gtcagtttgc cacagggtt ggagatgggtg acagtcttct ggcattcggc 120
attgtgcagg gctcgttca nacttccagt t 151

<210> 323
<211> 151
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(151)
<223> n = A,T,C or G

<400> 323
tgaggacttg tkttcttttt ctttattttt aatcctctta ckttgtaaata atattgccta 60
nagactcant tactaccag tttgtggtt twtgggagaa atgtaactgg acagtttagct 120
gttcaatyaa aaagacactt ancccatgtg g 151

<210> 324
<211> 461
<212> DNA
<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(461)
 <223> n = A,T,C or G

<400> 324
 acctgtgtgg aatttcagct ttcctcatgc aaaaggattt tgtatccccg gcctacttga 60
 agaagtgggc agctaaagga atccagggtg ttgggtggac tgtaataacc ttgatgaaa 120
 agagttacta cgaatcccat cttgggtcca gctatatcac tgacagcatg gtagaagact 180
 gcgaacctca cttctagact ttcacgggtg gacgaaacgg gttcagaaac tgccaggggc 240
 ctcatacagg gatatacaaaa taccctttgt gctaccagg ccctggggaa tcagggtgact 300
 cacacaaatg caatagttgg tcaactgcatt ttacactgaa ccaaagctaa acccggtgtt 360
 gccaccatgc accatggcat gccagagttc aacactgttg ctcttgaaaa ttgggtctga 420
 aaaaacgcac aagagccctt gccctgccct agctgangca c 461

<210> 325
 <211> 400
 <212> DNA
 <213> Homo sapien

<400> 325
 acactgtttc catgttatgt ttctacacat tgctacctca gtgctcctgg aaacttagct 60
 tttgatgtct ccaagtagtc caccttcatt taactctttg aaactgtatc atctttgcca 120
 agtaagagt gtggcctatt tcagctgctt tgacaaaatg actggctcct gacttaacgt 180
 tctataaatg aatgtgctga agcaaatg ccatgggtggc ggcaagaag agaaagatgt 240
 gttttgtttt ggactctctg tggctccttc caatgctgtg gggttccaac caggggaagg 300
 gtcccttttg cattgccaa tgccataacc atgagcacta cgctaccatg gttctgcctc 360
 ctggccaagc aggtctggtt gcaagaatga aatgaatgat 400

<210> 326
 <211> 1215
 <212> DNA
 <213> Homo sapien

<400> 326
 ggaggactgc agcccgcaact cgcagccctg gcaggcggca ctgggtcatgg aaaacgaatt 60
 gttctgtctg ggcgtcctgg tgcattccgca gtgggtgctg tcagccgcac actgtttcca 120
 gaactcctac accatcgggc tgggcctgca cagtcttgag gccgaccaag agccagggag 180
 ccagatggtg gaggccagcc tctccgtacg gcaccagag tacaacagac ccttgctcgc 240
 taacgacctc atgtcatca agttggacga atccgtgtcc gagtctgaca ccatccggag 300
 catcagcatt gcttcgcagt gccctaccgc ggggaactct tgccctcgttt ctggctgggg 360
 tctgtctggc aacggcagaa tgccctaccg gctgcagtgc gtgaacgtgt cgggtggtgtc 420
 tgaggaggte tgcagtaagc tctatgacct gctgtaccac ccagcatgt tctgcgcagg 480
 cggaggggcaa gaccagaagg actcctgcaa cgggtactct gggggggccc tgatctgcaa 540
 cgggtacttg cagggccttg tgtctttcgg aaaagccccg tggggccaag ttggcgtgcc 600
 aggtgtctac accaaccctc gcaaattcac tgagtggata gagaaaaccg tccaggccag 660
 ttaactctgg ggactgggaa cccatgaaat tgaccccaa atacatcctg cggaaggaaat 720
 tcaggaatat ctgttccag cccctcctcc ctccaggcca ggagtccagg cccccagccc 780
 ctctcctc aaaccaaggg tacagatccc cagccctcct tccctcagac ccaggagtcc 840
 agacccccca gccctcctc cctcagacct aggagtccag cccctcctcc ctccagacca 900
 ggagtccaga cccccagcc cctcctccct cagaccagg ggtccaggcc cccaacccct 960
 cctcctcag actcagaggt ccaagcccc aaccctcct tccccagacc cagaggtcca 1020
 ggtcccagcc cctcctccct cagaccagc ggtccaatgc cacctagact ctccctgtac 1080
 acagtgcgcc ctgtgtgcac gttgacccaa ccttaccagt tggtttttca tttttgtcc 1140
 cttccctta gatccagaa taaagtctaa gagaagcgc aaaaaaaaaa aaaaaaaaaa 1200
 aaaaaaaaaa aaaaa 1215

<210> 327
 <211> 220

<212> PRT

<213> Homo sapien

<400> 327

```

Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
1      5      10      15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
20     25     30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

```

<210> 328

<211> 234

<212> DNA

<213> Homo sapien

<400> 328

```

cgctcgtctc tggtagetgc agccaaatca taaacggcga ggactgcagc ccgcactcgc      60
agccctggca ggcggcactg gtcattgaaa acgaattgtt ctgctcgggc gtcctgggtgc      120
atccgcagtg ggtgctgtca gccacacact gtttccagaa ctctacacc atcgggctgg      180
gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag gcca      234

```

<210> 329

<211> 77

<212> PRT

<213> Homo sapien

<400> 329

```

Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
1      5      10      15
Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
20     25     30
Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
35     40     45
His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
50     55     60

```

Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
65 70 75

<210> 330
<211> 70
<212> DNA
<213> Homo sapien

<400> 330
cccaacacaa tggcccgatc ccatacctga ctccgccctc aggatcgctc gtctctggta 60
gctgcagcca 70

<210> 331
<211> 22
<212> PRT
<213> Homo sapien

<400> 331
Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
1 5 10 15
Val Ser Gly Ser Cys Ser
20

<210> 332
<211> 2507
<212> DNA
<213> Homo sapien

<400> 332
tgggtgccgct gcagccggca gagatggttg agctcatggt cccgctgttg ctccctcttc 60
tgcccttcct tctgtatatg gctgcgcccc aaatcaggaa aatgctgtcc agtgggggtg 120
gtacatcaac tgttcagctt cctgggaaaag tagttgtggc cacaggagct aatacaggta 180
tcgggaagga gacagccaaa gagctggctc agagaggagc tcgagtatat ttagcttgcc 240
gggatgtgga aaagggggaa ttggtggcca aagagatcca gaccacgaca gggaaccagc 300
aggtgttggt gcggaaaactg gacctgtctg atactaagtc tattcgagct ttgctaagg 360
gcttcttagc tgaggaaaag cacctccacg ttttgatcaa caatgcagga gtgatgatgt 420
gtccgtactc gaagacagca gatggctttg agatgcacat aggagtcaac cacttgggtc 480
acttctctct aacctatctg ctgctagaga aactaaagga atcagcccca tcaaggatag 540
taaatgtgtc ttccctcgca catcacctgg gaaggatcca cttccataac ctgcagggag 600
agaaattcta caatgcaggc ctggcctact gtcacagcaa gctagccaac atcctcttca 660
cccaggaact ggcccggaga ctaaaaggct ctggcggttac gacgtattct gtacaccctg 720
gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg tgggtggcttt 780
tctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac tgtgccttaa 840
cagaaggctc tgagattcta agtgggaatc atttcagtga ctgtcatgtg gcatgggtct 900
ctgcccgaagc tcgtaatgag actatagcaa ggcggtgtg ggacgtcagt tgtgacctgc 960
tgggcctccc aatagactaa caggcagtg cagttggacc caagagaaga ctgcagcaga 1020
ctacacagta cttcttgtca aaatgattct cttcaagggt tttcaaaacc ttagcacaa 1080
agagagcaaa acctccagc cttgcctgct tgggtgtccag ttaaaactca gtgtactgcc 1140
agattcgtct aaatgtctgt catgtccaga tttactttgc ttctgttact gccagagtta 1200
ctagagatat cataatagga taagaagacc ctcatatgac ctgcacagct cattttcctt 1260
ctgaaagaaa ctactaccta ggagaatcta agctatagca gggatgattt atgcaaattt 1320
gaactagctt ctttgttcac aattcagttc ctcccaacca accagtcttc acttcaagag 1380
ggccacactg caacctcagc ttaacatgaa taacaaagac tggctcagga gcagggtctg 1440
cccaggcatg gtggatcacc ggaggtcagt agttcaagac cagcctggcc aacatggtga 1500
aacccacact ctactaaaaa ttgtgtatat ctttgtgtgt cttcctggtt atgtgtgcca 1560
agggagtatt ttcacaaagt tcaaaacagc cacaataatc agagatggag caaaccagtg 1620
ccatccagtc tttatgcaaa tgaaatgctg caaagggag cagattctgt atatgttggt 1680
aactaccac caagagcaca tgggtagcag ggaagaagta aaaaaagaga aggagaatac 1740

tggaagataa	tgacacaaat	gaagggacta	gttaaggatt	aactagccct	ttaaggatta	1800
actagttaag	gattaatagc	aaaagayatt	aaatatgcta	acatagctat	ggaggaattg	1860
agggcaagca	cccaggactg	atgaggtctt	aacaaaaacc	agtgtggcaa	aaaaaaaaaa	1920
aaaaaaaaaa	aaaaatccta	aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	1980
attatcttag	ggactgatat	tggttaattat	ggtcaattta	ataatatattt	ggggcatttc	2040
cttacattgt	cttgacaaga	ttaaaatgtc	tgtgccaaaa	ttttgtattt	tatttggaga	2100
cttcttatca	aaagtaatgc	tgccaaagga	agtctaagga	attagtagtg	ttcccatcac	2160
ttgtttggag	tgtgctattc	taaaagattt	tgatttctctg	gaatgacaat	tatatatttaa	2220
cttttggtggg	ggaaagagtt	ataggaccac	agtcttctact	tctgatactt	gtaaattaat	2280
cttttattgc	acttggtttt	accatttaagc	tatatgttta	gaaatggtea	ttttacggaa	2340
aaattagaaa	aattctgata	atagtgcaga	ataaatgaat	taatgtttta	cttaatttat	2400
attgaactgt	caatgacaaa	taaaaattct	ttttgattat	ttttgtttt	catttaccag	2460
aataaaaacg	taagaattaa	aagtttgatt	acaaaaaaa	aaaaaaa		2507

<210> 333

<211> 3030

<212> DNA

<213> Homo sapien

<400> 333

gcaggcgact	tgcgagctgg	gagcgattta	aaacgctttg	gattcccccg	gcctgggtgg	60
ggagagcgag	ctgggtgccc	cctagattcc	ccgccccgc	acctcatgag	ccgaccctcg	120
gctccatgga	gcccggcaat	tatgccacct	tggatggagc	caaggatata	gaaggcttgc	180
tgggagcggg	agggggcg	aatctggtcg	cccactcccc	tctgaccagc	caccagcgg	240
cgcctacgct	gatgcctgct	gtcaactatg	cccccttggg	tctgccaggc	tcggcggagc	300
cgccaaagca	atgccaccca	tgccctgggg	tgccccaggg	gacgtcccca	gctcccgtgc	360
cttatgggta	ctttggaggc	gggtactact	cctgccgagt	gtcccggagc	tcgctgaaac	420
cctgtgcccc	ggcagccacc	ctggccgcgt	accccgcgga	gactcccacg	gccgggggaag	480
agtacccccag	ycgccccact	gagtttgctt	tctatccggg	atatccggga	acctaccagc	540
ctatggccag	ttacctggac	gtgtctgtgg	tgcagactct	gggtgctcct	ggagaaccgc	600
gacatgactc	cctgttgctt	gtggacagtt	accagttctt	ggctctcgct	ggtggctgga	660
acagccagat	gtgttgccag	ggagaacaga	acccacttgg	tcccttttgg	aaggcagcat	720
ttgcagactc	cagcgggcag	caccctcctg	acgcctgcgc	ctttcgtcgc	ggccgcaaga	780
aacgcattcc	gtacagcaag	gggcagttgc	gggagctgga	gcgggagtat	gcccgtataca	840
agttcatcac	caaggacaag	aggcgcaaga	tctcggcagc	caccagcctc	tcggagcgcc	900
agattaccat	ctgggtttcag	aaccgcccgg	tcaaagagaa	gaaggttctc	gccaagggtga	960
agaacagcgc	taccctttaa	gagatctcct	tgcctgggtg	ggaggagcga	aagtgggggt	1020
gtcctggggg	gaccaggaac	ctgccaagcc	caggctgggg	ccaaggactc	tgctgagagg	1080
cccctagaga	caacaccctt	cccaggccac	tggctgtctg	actgttcttc	aggagcggcc	1140
tgggtaccca	gtatgtgcag	ggagacggaa	ccccatgtga	cagcccactc	caccaggttg	1200
cccaaagaac	ctggcccagt	cataatcatt	catcctgaca	gtggcaataa	tcacgataac	1260
cagtactagc	tgccatgatc	gttagcctca	tattttctat	ctagagctct	gtagagcact	1320
ttagaaaaccg	ctttcatgaa	ttgagctaata	tatgaataaa	tttgggaaggc	gatccctttg	1380
cagggaagct	ttctctcaga	cccccttcca	ttacacctct	caccctggta	acagcaggaa	1440
gactgaggag	aggggaacgg	gcagattcgt	tgtgtggctg	tgatgtccgt	ttagcatttt	1500
tctcagctga	cagctgggta	ggtggacaat	tgtagaggct	gtctcttctt	ccctccttgt	1560
ccaccccata	gggtgtacct	actggtcttg	gaagcaccca	tccttaatac	gatgattttt	1620
ctgtcgtgtg	aaaatgaagc	cagcaggctg	cccctagtca	gtccttctct	ccagagaaaa	1680
agagatttga	gaaagtgcct	gggtaattca	ccattaattt	cctcccccaa	actctctgag	1740
tcttccctta	atatttctgg	tggttctgac	caaagcaggt	catggtttgt	tgagcatttg	1800
ggatcccagt	gaagtagatg	tttgtagcct	tgcatactta	gcccttccca	ggcaciaaacg	1860
gagtggcaga	gtgggtgcaa	ccctgttttc	ccagtccacg	tagacagatt	cacagtgcgg	1920
aattctggaa	gctggagaca	gacgggctct	ttgcagagcc	gggactctga	gagggacatg	1980
agggcctctg	cctctgtgtt	cattctctga	tgtcctgtac	ctgggctcag	tgcccgggtg	2040
gactcatctc	ctggccgcgc	agcaaagcca	gcggttctgt	gctgggtcctt	cctgcacctt	2100
aggctggggg	tggggggcct	gccggcgcat	tctccacgat	tgagcgacac	ggcctgaagt	2160
ctggacaacc	cgcagaaccg	aagctccgag	cagcgggtcg	gtggcgagta	gtggggctcg	2220
tggcgagcag	ttggtggtgg	gccgcggccg	ccactacctc	gaggacattt	ccctcccggg	2280

gccagctctc	ctagaaaccc	cgcgcgggcc	gccgcagcca	agtgtttatg	gcccgcgggtc	2340
gggtggggtc	ctagccctgt	ctcctctcct	gggaaggagt	gaggggtggga	cgtgacttag	2400
acacctacaa	atctatttac	caaagaggag	cccgggactg	agggaaaagg	ccaaagagtg	2460
tgagtgcag	cggactgggg	gttcagggga	agaggacgag	gaggaggaag	atgaggtcga	2520
tttctgatt	taaaaaatcg	tccaagcccc	gtgggtccagc	ttaaggtcct	cggttacatg	2580
cgccgctcag	agcagggtcac	tttctgcctt	ccacgtcctc	cttcaaggaa	gccccatgtg	2640
ggtagctttc	aatatcgag	gttcttactc	ctctgcctct	ataagctcaa	acccaccaac	2700
gatcgggcaa	gtaaaccccc	tccctcgccg	acttcggaac	tggcgagagt	tcagcgagca	2760
tgggcctgtg	gggagggggc	aagatagatg	agggggagcg	gcatgggtgcg	gggtgacccc	2820
ttggagagag	gaaaaaggcc	acaagagggg	ctgccaccgc	cactaacgga	gatggccctg	2880
gtagagacct	ttgggggtct	ggaacctctg	gactccccat	gctctaactc	ccacactctg	2940
ctatcagaaa	cttaaaactg	aggattttct	ctgtttttca	ctcgcaataa	aytcagagca	3000
aacaaaaaaa	aaaaaaaaaa	aaaactcgag				3030

<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

ggcgcccgct	ctagagctag	tgggatcccc	cgggctgcac	gaattcggca	cgagtgagtt	60
ggagttttac	ctgtattgtt	ttaattttcaa	caagcctgag	gactagccac	aaatgtaccc	120
agttttacaaa	tgaggaaaca	ggtgcaaaaa	gggtgttacc	tgtcaaagg	cgtatgtggc	180
agagccaaga	tttgagccca	gttatgtctg	atgaacttag	cctatgctct	ttaaacttct	240
gaatgctgac	cattgaggat	atctaaactt	agatcaattg	cattttccct	ccaagactat	300
ttactttatca	atacaataat	accaccttta	ccaatctatt	gttttgatac	gagactcaaa	360
tatgccagat	atatgtaaaa	gcaacctaca	agctctctaa	tcatgctcac	ctaaaagatt	420
cccgggatct	aataggctca	aagaaacttc	ttctagaaat	ataaaagaga	aaattggatt	480
atgcaaaaaat	tcattattaa	tttttttcat	ccatccttta	attcagcaaa	catttatctg	540
ttgttgactt	tatgcagtat	ggccttttaa	ggattggggg	acaggtgaag	aacgggggtgc	600
cagaatgcac	cctcctacta	atgaggtcag	tacacatttg	catttttaaaa	tgccctgtcc	660
agctgggcat	ggctggatcat	gcctgtaate	tcaacattgg	aaggccaagg	caggaggatt	720
gcttcagccc	aggagttcaa	gaccagcctg	ggcaacatag	aaagacccca	tctctcaatc	780
aatcaatcaa	tgccctgtct	ttgaaaataa	aactctttta	gaaaggttta	atgggcaggg	840
tgtggtagct	catgcctata	atacagcact	ttggggaggct	gaggcaggag	gatcacttta	900
gcccagaagt	tcaagaccag	cctgggcaac	aagtgcacac	tcatctcaat	tttttaataa	960
aatgaatata	tacataagga	aagataaaaa	gaaaagttta	atgaaagaat	acagtataaa	1020
acaaatctct	tggaccctaaa	agtatttttg	ttcaagccaa	atattgtgaa	tcacctctct	1080
gtgttgagga	tcagaatat	ctaagccagc	gaaactgagc	agaaagttca	tgtactaact	1140
aatcaaccgg	aggcaaggca	aaaatgagac	taactaatca	atccgaggca	aggggcaaat	1200
tagacggaac	ctgactctgg	tctattaagc	gacaactttc	cctctgttgt	atttttcttt	1260
tattcaatgt	aaaaggataa	aaactctcta	aaactaaaaa	caatgtttgt	caggagttaac	1320
aaaccatgac	caactaatta	tgggggaatca	taaaatatga	ctgtatgaga	tcttgatggg	1380
ttacaaaagt	taccactgtg	taatcacttt	aaacattaat	gaacttaaaa	atgaatttac	1440
ggagattgga	atgtttcttt	cctgttgtat	tagttggctc	aggctgccat	aacaaaatac	1500
cacagactgg	gaggcttaag	taacagaaat	tcattttctca	cagttctggg	ggctggaagt	1560
ccacgatcaa	ggtgcaggaa	aggcaggctt	cattctgagg	cccctctctt	ggctcacatg	1620
tggccaccct	cccactgcgt	gctcacatga	cctctttgtg	ctcctggaaa	gaggggtgtg	1680
gggacagagg	gaaagagaag	gagaggggaac	tctctggtgt	ctcgtctttc	aaggacccta	1740
acctgggcca	ctttggccca	ggcactgtgg	gggtgggggt	tgtggctgct	ctgctctgag	1800
tggccaagat	aaagcaacag	aaaaatgtcc	aaagctgtgc	agcaaagaca	agccaccgaa	1860
cagggatctg	ctcatcagtg	tggggacctc	caagtcggcc	accctggagg	caagccccc	1920
cagagcccat	gcaagggtgg	agcagcagaa	gaagggaatt	gtccctgtcc	ttggcacatt	1980
cctcacccag	ctggtgatgc	tggacactgc	gatgaatggt	aatgtggatg	agaatatgat	2040
ggactcccag	aaaaggagac	ccagctgctc	aggtggctgc	aaatcattac	agccttcac	2100
ctggggagga	actggggggc	tggttctggg	tcagagagca	gcccagtgag	ggtgagagct	2160
acagcctgtc	ctgccagctg	gatccccagt	cccgtcaac	cagtaatcaa	ggctgagcag	2220
atcaggcttc	cgggagctgg	tcttgggaag	ccagccctgg	ggtgagttgg	ctcctgctgt	2280

ggtactgaga caatattgtc ataaattcaa tgcgcccttg tatccctttt tcttttttat	2340
ctgtctacat ctataatcac tatgcatact agtcctttgtt agtggttcta ttcmaactaa	2400
tagagatatg ttatact	2417

<210> 335

<211> 2984

<212> DNA

<213> Homo sapien

<400> 335

atccctcctt cccactctc ctttccagaa ggcacttggg gtcttatctg ttggactctg	60
aaaacacttc aggcgccctt ccaaggtctc cccaaacccc taagcagccg cagaagcgct	120
cccagactgc cttctccac actcaggtga tgcagttgga gaggaagttc agccatcaga	180
agtacctgtc ggcccttgaa cgggccacc tggccaagaa cctcaagctc acggagaccc	240
aagtgaagat atggttccag aacagacgct ataagactaa gcgaaagcag ctctcctcgg	300
agctgggaga cttggagaag cactcctctt tgccggccct gaaagaggag gccttctccc	360
gggcctccct ggtctccgtg tataacagct atccttacta cccatacctg tactgctggg	420
gcagctggag cccagctttt tggtaatgcc agctcaggtg acaaccatta tgatcaaaaa	480
ctgccttccc caggggtgtc ctatgaaaag cacaaggggc caaggtcagg gagcaagagg	540
tgtgcacacc aaagctattg gagatttgcg tggaaatctc asattcttca ctggtgagac	600
aatgaaacaa cagagacagt gaaagtttta atacctaagt cattccccca gtgcatactg	660
taggtcattt tttttgcttc tggctacctg tttgaagggg agagagggaa aatcaagtgg	720
tattttccag cactttgtat gattttggat gagctgtaca cccaaggatt ctgttctgca	780
actccatcct cctgtgtcac tgaatatcaa ctctgaaaga gcaaacctaa caggagaaag	840
gacaaccagg atgaggatgt caccaactga attaaactta agtccagaag cctcctgttg	900
gccttggaat atggccaagg ctctctctgt ccctgtaaaa gagaggggca aatagagagt	960
ctccaagaga acgcctcat gctcagcaca tatttgcatt ggagggggag atgggtggga	1020
ggagatgaaa atatcagctt ttcttattcc tttttattcc ttttaaaatg gtatgccaac	1080
ttaagtattt acaggggtggc ccaaatagaa caagatgcac tgcctgtgat ttaagacaa	1140
gctgtataaa cagaactcca ctgcaagagg gggggccggg ccaggagaat ctccgcttgt	1200
ccaagacagg ggcctaagga gggctctccac actgctgcta ggggctgttg cattttttta	1260
ttagtagaaa gtggaaaggc ctcttctcaa atttttccc ttgggctgga gaatttagaa	1320
tcagaagttt cctggagttt tcaggctatc atatatactg tatcctgaaa ggcaacataa	1380
ttcttcttcc cctcctttta aaattttgtg ttcttttttg cagcaattac tcaactaaagg	1440
gcttcatttt agtccagatt tttagtctgg ctgcacctaa cttatgcctc gcttatttag	1500
cccagatctt ggtctttttt tttttttttt tttttccgtc tccccaaagc tttatctgtc	1560
ttgacttttt aaaaaagttt gggggcagat tctgaattgg ctaaaagaca tgcattttta	1620
aaactagcaa ctcttatttc ttctctttaa aaatacatag cattaaatcc caaatcctat	1680
ttaaagacct gacagcttga gaaggtcact actgcattta taggacctc tgggtggtct	1740
gctgttacgt ttgaagtctg acaatccttg agaacttttg catgcagagg aggtagagg	1800
tattggattt tcacagagga agaacacagc gcagaatgaa gggccaggct tactgagctg	1860
tccagtggag ggctcatggg tgggacatgg aaaagaaggc agcctaggcc ctggggagcc	1920
cagtccactg agcaagcaag ggactgagtg agccttttgc aggaaaaggc taagaaaaag	1980
gaaaaccatt ctaaaacaca acaagaaact gtccaaatgc tttgggaact gtgtttattg	2040
cctataatgg gtcccaaaaa tgggtaacct agacttcaga gagaatgagc agagagcaaa	2100
ggagaaatct ggctgtcctt ccatttttcat tctgttatct caggtgagct ggtagagggg	2160
agacattaga aaaaaatgaa acaacaaaac aattactaat gaggtacgct gaggcctggg	2220
agtctcttga ctccactact taattccgtt tagtgagaaa cttttcaatt ttcttttatt	2280
agaagggcca gcttactgtt ggtggcaaaa ttgccaacat aagttaatag aaagtggcc	2340
aatttcaccc cattttctgt ggtttgggct ccacattgca atgttcaatg ccacgtgctg	2400
ctgacaccga ccggagtact agccagcaca aaaggcaggg tagcctgaat tgctttctgc	2460
tctttacatt tcttttaaaa taagcattta gtgctcagtc cctactgagt actctttctc	2520
tccccctcct tgaatttaat tctttcaact tgcaatttgc aaggattaca catttctactg	2580
tgatgtatat tgtgttgcaa aaaaaaaaaa aagtgtcttt gtttaaaatt acttgggttg	2640
tgaatccatc ttgcttttcc ccatttgaaa ctagtcatca acccatctct gaactggtag	2700
aaaaacatct gaagagctag tctatcagca tctgacaggt gaattggatg gttctcagaa	2760
ccatttcacc cagacagcct gtttctatcc tgtttaataa attagtttgg gttctctaca	2820
tgcataacaa accctgctcc aatctgtcac ataaaagtct gtgacttgaa gtttagtcag	2880

cacccccacc aaacttttatt tttctatgtg ttttttgcaa catatgagtg ttttgaaaat 2940
 aaagtaccca tgtcttttatt agaaaaaaaa aaaaaaaaaa aaaa 2984

<210> 336
 <211> 147
 <212> PRT
 <213> Homo sapien

<400> 336
 Pro Ser Phe Pro Thr Leu Leu Ser Arg Arg His Leu Gly Ser Tyr Leu
 1 5 10 15
 Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr
 20 25 30
 Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
 35 40 45
 Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
 50 55 60
 Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
 65 70 75 80
 Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
 85 90 95
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
 100 105 110
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
 115 120 125
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
 130 135 140
 Ala Phe Trp
 145

<210> 337
 <211> 9
 <212> PRT
 <213> Homo sapien

<400> 337
 Ala Leu Thr Gly Phe Thr Phe Ser Ala
 1 5

<210> 338
 <211> 9
 <212> PRT
 <213> Homo sapien

<400> 338
 Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5

<210> 339
 <211> 318
 <212> PRT
 <213> Homo sapien

<400> 339
 Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Leu Pro Phe Leu
 1 5 10 15
 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val

20 25 30
 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Thr Gly
 35 40 45
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
 50 55 60
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
 65 70 75 80
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
 85 90 95
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
 100 105 110
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
 115 120 125
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met
 130 135 140
 His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu
 145 150 155 160
 Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser
 165 170 175
 Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly
 180 185 190
 Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala
 195 200 205
 Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly
 210 215 220
 Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val
 225 230 235 240
 Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe
 245 250 255
 Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu
 260 265 270
 Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His
 275 280 285
 Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg
 290 295 300
 Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp
 305 310 315

<210> 340

<211> 483

<212> DNA

<213> Homo sapien

<400> 340

gccgaggtct gccttcacac ggaggacacg agactgcttc ctcaagggct cctgcctgcc 60
 tggacactgg tgggaggcgc tgttttagttg gctgttttca gaggggtctt tccggagggac 120
 ctctgtctgc aggctggagt gtctttatct ctggcgggag accgcacatt cctactgctga 180
 ggttggtgggg gcggtttatc aggcagtgat aaacataaga tgtcatttcc ttgactccgg 240
 ccttcaattt tctctttggc tgacgaacgga gtccgtggtg tcccgatgta actgaccct 300
 gctccaaacg tgacatcact gatgctcttc tccgggggtgc tgatggcccg cttgggtcacg 360
 tgctcaatct cgccattcga ctcttgctcc aaactgtatg aagacacctg actgcacgtt 420
 ttttctgggc ttccagaatt taaagtgaag ggcagcactc ctaagctccg actccgatgc 480
 ctg 483

<210> 341

<211> 344

<212> DNA

<213> Homo sapien

<400> 341

ctgctgctga	gtcacagatt	tcattataaa	tagcctccct	aaggaaaata	cactgaatgc	60
tatttttact	aaccattcta	tttttataga	aatagctgag	agtttctaaa	ccaactctct	120
gctgccttac	aagtattaaa	tatttttact	ctttccataa	agagtagctc	aaaatatgca	180
attaatttaa	taattttctga	tgatggtttt	atctgcagta	atatgtatat	catctattag	240
aatttactta	atgaaaaact	gaagagaaca	aaattttgtaa	ccactagcac	ttaagtactc	300
ctgattctta	acattgtctt	taatgaccac	aagacaacca	acag		344

<210> 342

<211> 592

<212> DNA

<213> Homo sapien

<400> 342

acagcaaaaa	agaaactgag	aagcccaaty	tgctttcttg	ttaacatcca	cttatccaac	60
caatgtggaa	acttcttata	cttggttcca	ttatgaagtt	ggacaattgc	tgctatcaca	120
cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ttggcaagac	tttgttgatg	180
accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tccctcagaa	gagtgtaaag	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaagggca	gtcaaattca	360
tcagcatggg	ctgtttggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctggctctt	420
cccggtctct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttcttctt	ggtttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagtct	cggctgccgc	tg	592

<210> 343

<211> 382

<212> DNA

<213> Homo sapien

<400> 343

ttcttgacct	cctcctcctt	caagctcaaa	caccacctcc	cttatccagg	accggcactt	60
cttaatgttt	gtggctttct	ctccagcctc	tcttaggagg	ggtaatgggtg	gagttggcat	120
cttgtaactc	tcctttctcc	tttcttcccc	tttctctgcc	cgcctttccc	atcctgctgt	180
agacttcttg	attgtcagtc	tgtgtcacat	ccagtgattg	ttttggtttc	tgttcccttt	240
ctgactgccc	aaggggctca	gaaccccgagc	aatcccttcc	tttccactac	ttcttttttg	300
ggggtagttg	gaagggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaagagg	360
aaaccaccaa	gctgaaaaaa	aa				382

<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

ctgggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	agtcctgaga	60
caataggcca	cataaacttg	gctggatgga	acctcacaat	aagggtggta	cctcttggtt	120
gtttaggggg	atgccaaagg	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccc	gtcacatcaa	ggtcacactc	240
caccttcctg	tgctgaatg	gttgccagggt	cagaaaaaat	caccccttac	gagtgcgggt	300
tcgacctat	atcccccgcc	cgcgtccctt	tctccataaa	attctcttta	gtagctatta	360
ccttcttatt	atttgatcta	gaaattgccc	tccttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
gtctggccta	tgagtgacta	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

```

acctttttgag gtctctctca ccacctccac agccaccgtc accgtgggat gtgctggatg      60
tgaatgaagc ccccatcttt gtgcctcctg aaaagagagt ggaagtgtcc gaggactttg      120
gCGTgggcca ggaaatcaca tcctacactg cccaggagcc agacacattt atggaaacaga      180
aaataacata tcggatttgg agagacactg ccaactggct ggagattaat ccggacactg      240
gtgccatttc c                                     251

```

<210> 346

<211> 282

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (282)

<223> n = A,T,C or G

<400> 346

```

cgCGTctctg acactgtgat catgacaggg gttcaaacag aaagtgcctg ggccctcctt      60
ctaagtcttg ttaccaaaaa aaggaaaaag aaaagatctt ctCagttaca aattctggga      120
agggagacta tacctggctc ttgccctaag tgagaggtct tccctcccgc accaaaaaat      180
agaaaggctt tctatttcac tggcccaggT aggggggaagg agagtaactt tgagtctgtg      240
ggtctcattt cccaaggTgc cttcaatgct catnaaaacc aa                               282

```

<210> 347

<211> 201

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (201)

<223> n = A,T,C or G

<400> 347

```

acacacataa tattataaaa tgccatctaa ttggaaggag ctttctatca ttgcaagtca      60
taaataaac ttttaaaana ntactancag cttttaccta ngctcctaaa tgcttgtaaa      120
tctgagactg actggaccca cccagaccca gggcaaagat acatgttacc atatcatctt      180
tataaagaat tttttttgt c                                     201

```

<210> 348

<211> 251

<212> DNA

<213> Homo sapien

<400> 348

```

ctgttaatca caacatttgt gcatcacttg tgccaagtga gaaaatgttc taaaatcaca      60
agagagaaca gtgccagaat gaaactgacc ctaagtccca ggtgcccctg ggcaggcaga      120
aggagacact cccagcatgg aggagggttt atcttttcat cctaggtcag gtctacaatg      180
ggggaagggt ttattataga actcccaaca gcccacctca ctctgccac ccaccgatg      240
gccctgcctc c                                     251

```

<210> 349

<211> 251

<212> DNA

<213> Homo sapien

<400> 349

taaaaatcaa gccatttaat tgtatctttg aaggtaaaca atatatggga gctggatcac	60
aacccctgag gatgccagag ctatgggtcc agaacatggt gtggtattat caacagagtt	120
cagaagggtc tgaactctac gtgttaccag agaacataat gcaattcatg cattccactt	180
agcaattttg taaaatacca gaaacagacc ccaagagtct ttcaagatga ggaaaattca	240
actcctgggt t	251

<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

ctggacactt tgcgagggct tttgctggct gctgctgctg cccgtcatgc tactcatcgt	60
agcccgcccg gtgaagctcg ctgctttccc tacctcctta agtgactgcc aaacgcccac	120
cggctggaat tgctctgggt atgatgacag agaaaatgat ctcttctctt gtgacaccaa	180
cacctgtaaa tttgatgggg aatgtttaag aattggagac actgtgactt gcgtctgtca	240
gttcaagtgc aacaatgact atgtgcctgt gtgtggctcc aatggggaga gctaccagaa	300
tgagtgttac ctgcgacagg ctgcatgcaa acagcagagt gagatacttg tgggtgtcaga	360
aggatcatgt gccacagtcc atgaaggctc tggagaaact agtcaaaagg agacatccac	420
ctgtgatatt tgccagtttg gtgcagaatg tgacgaagat gccgaggatg tctgggtgtgt	480
gtgtaatat tgaactgtct aaaccaactt caatccctc tgcgcttctg atgggaaatc	540
ttatgataat gcatgccaaa tcaaagaagc atcgtgtcag aaacaggaga aaattgaagt	600
catgtctttg ggtcgatgtc aagataacac aactacaact actaagtctg aagatgggca	660
ttatgcaaga acagattatg cagagaatgc taacaaatta gaagaaagtg ccagagaaca	720
ccacatacct tgtccggaac attacaatgg cttctgcatg catgggaagt gtgagcattc	780
tatcaatatg caggagccat cttgcagggt tgatgctggt tatactggac aacactgtga	840
aaaaaaggac tacagtgttc tatacgtttg tcccggctct gtacgatttc agtatgtctt	900
aatcgag	908

<210> 351

<211> 472

<212> DNA

<213> Homo sapien

<400> 351

ccagttattt gcaagtggta agagcctatt taccataaat aatactaaga accaactcaa	60
gtcaaacctt aatgccattg ttattgtgaa ttaggattaa gtagtaattt tcaaaattca	120
cattaacttg attttaaaat cagwtttgyg agtcatttac cacaagctaa atgtgtacac	180
tatgataaaa acaaccattg tattcctgtt tttctaaaca gtcctaattt ctaacactgt	240
atatatcctt cgacatcaat gaactttgtt ttcttttact ccagtaataa agtaggcaca	300
gatctgtcca caacaaactt gccctctcat gccttgctc tcaccatgct ctgctccagg	360
tcagccccct tttggcctgt ttgttttgtc aaaaacctaa tctgcttctt gcttttcttg	420
gtaatatata tttaggggaag atgttgcttt gccacacac gaagcaaagt aa	472

<210> 352

<211> 251

<212> DNA

<213> Homo sapien

<400> 352

ctcaaagcta atctctcggg aatcaaacca gaaaagggca aggatcttag gcatgggtgga	60
tgtggataag gccagggtcaa tggctgcaag catgcagaga aagagggtaca tcggagcgtg	120
caggctgcgt tccgtcctta cgatgaagac cagcatgcag tttccaaaca ttgccactac	180
atacatggaa aggaggggga agccaaccca gaaatgggct ttctctaate ctgggataacc	240
aataagcaca a	251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353
 tttttttttt tttttttttt ttttttttaca caatgcagtc atttattttat tgagtatgtg 60
 cacattatgg tattattact atactgatta tttttatcat gtgacttcta attaraaaat 120
 gtatccaaaa gcaaaacagc agatatacaa aattaaagag acagaagata gacattaaca 180
 gataaggcaa cttatacatt gacaatccaa atccaatata tttaaacatt tgggaaatga 240
 gggggacaaa tgggaagccar atcaaatttg tgtaaaacta ttcagtatgt ttcccttgct 300
 tcatgtctga raaggctctc ctttcaatgg ggatgacaaa ctccaaatgc cacacaaatg 360
 ttaacagaat actagattca cactggaacg ggggtaaaga agaaattatt ttctataaaa 420
 gggtccttaa tgtagt 436

<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354
 ccttttctag ttcaccagtt ttctgcaagg atgctgggta gggagtgtct gcaggaggag 60
 caagtctgaa accaaatcta ggaaacatag gaaacgagcc aggcacaggg ctggtggggc 120
 atcagggacc accctttggg ttgatatttt gcttaatctg catcttttga gtaagatcat 180
 ctggcagtag aagctgttct ccaggtagcat ttctctagct catgtacaaa aacatcctga 240
 aggactttgt caggtgcctt gctaaaagcc agatgcgttc ggcacttctt tggctcgagg 300
 ttaattgcac acctacaggg actgggctca tgctttcaag tattttgtcc tcaactttagg 360
 gtgagtgaat gatccccatt ataggagcac ttgggagaga tcatataaaa gctgactctt 420
 ggttagggagt gtttccagga ggaacaagtc tgaaaccaat catgaaataa atggtagggtg 480
 tgaactggaa aactaattca aaagagagat cgtgatataa gtgtggttga tacaccttgg 540
 caatatggaa ggctctaatt tgcccatatt tgaaataata attcagcttt ttgtaataca 600
 aaataacaaa ggattgagaa tcatggtgtc taatgtataa aagacccagg aaacataaat 660
 atatcaactg cataaatgta aaatgcatgt gacccaagaa ggccccaag tggcagacaa 720
 cattgtaccc attttccctt ccaaaatgtg agcggcgggc ctgctgcttt caaggctgtc 780
 acacgggatg tcag 840
 854

<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

<400> 355
 gaaattaagt atgagctaaa ttccctgtta aaacctctag ggggtgacaga tctcttcaac 60
 caggtcaaag ctgatcttct tggaatgtca ccaaccaagg gcctatatatt atcaaaaagcc 120
 atccacaagt catacctgga tgtcagcgaa gagggcacgg aggcagcagc agccactggg 180
 gacagcatcg ctgtaaaaag cctaccaatg agagctcagt tcaaggcgaa ccacctcttc 240
 ctgttcttta taaggcacac tcataccaac acgatcctat tctgtggcaa gcttgccctc 300
 ccctaactcag atgggggttga gtaaggctca gagttgcaga tgagggtgcag agacaatcct 360
 gtgactttcc cacggcctaaa aagctgttca cacctcacgc acctctgtgc ctgagtttgc 420
 tcatctgcaa aatagggtcta ggatttcttc caaccatttc atgagttgtg aagctaaggc 480
 tttgttaatc atggaaaaag gtgactttat gcagaaagcc tttctggctt tcttatctgt 540
 ggtgtctcat ttgagtgtcg tccagtgcga tgatcaagtc aatgagtaaa attttaaggg 600
 attagatttt cttgacttgt atgtatctgt gagatcttga ataagtgacc tgacatctct 660
 gcttaaagaa aaccag 676

<210> 356

<211> 574
 <212> DNA
 <213> Homo sapien

<400> 356
 tttttttttt ttttttcagga aaacattctc ttacttttatt tgcattctcag caaagggttct 60
 catgtggcac ctgactggca tcaaaccaaa gttcgtaggc caacaaagat gggccactca 120
 caagcttccc atttgtagat ctcatgtcct atgagtatct gacacctgtt cctctcttca 180
 gtctcttagg gaggtctaaa tctgtctcag gtgtgctaag agtgccagcc caaggkgtc 240
 aaaagtccac aaaactgcag tctttgctgg gatagtaagc caagcagtgc ctggacagca 300
 gagttctttt cttgggcaac agataaccag acaggactct aatcgtgctc ttattcaaca 360
 ttcttctgtc tctgcctaga ctggaataaa aagccaatct ctctcgtggc acaggggaagg 420
 agatacaagc tcgtttacat gtgatagatc taacaaaggc atctaccgaa gtctgggtctg 480
 gatagacggc acagggagct cttagggtcag cgctgctggg tggaggacat tcctgagtcc 540
 agctttgcag cctttgtgca acagtacttt ccca 574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 357
 tttttttttt tttttttttt tttttttttt tacagaatat aratgcttta tcaactgkact 60
 taatatggkg kcttgttcac tatacttaaa aatgcaccac tcataaatat ttaattcagc 120
 aagccacaac caaracttga ttttatcaac aaaaaccctt aaatataaac ggsaaaaaag 180
 atagatataa ttattccagt ttttttaaaa cttaaaarat attccattgc cgaattaara 240
 araarataag tgttatatgg aaagaagggc attcaagcac actaaaraaa cctgaggkka 300
 gcataatctg tacaaaatta aactgtcctt tttggcattt taacaaattt gcaacgktct 360
 tttttttctt tttctgtttt tttttttttt tac 393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358
 acagggtaaa caggaggatc cttgctctca cggagcttac attctagcag gaggacaata 60
 ttaatgttta taggaaaatg atgagtttat gacaaaggaa gtagatagtg ttttacaaga 120
 gcatagagta gggaaagctaa tccagcacag ggaggtcaca gagacatccc taagggaagtg 180
 gagtttaaac tgagagaagc aagtgcctaa actgaaggat gtgttgaaga agaagggaga 240
 gtagaacaat ttgggcagag ggaaccttat agaccctaag gtgggaagggt tcaaagaact 300
 gaaagagagc tagaacagct ggagccgttc tccggtgtaa agaggagtca aagagataag 360
 attaaagatg tgaagattaa gatcttggtg gcattcaggg attggcactt ctacaagaaa 420
 tcaactgaagg gagtaatgtg acattacttt tcacttcagg atggccattc taactccagg 480
 gggtagactg gactaggtaa gactggaggc aggtagacct cttctaaggc ctgcgatagt 540
 gaaagacaaa aataagtggg gaaattcagg ggatagtga aatcagtagg acttaatgag 600
 caagccagag gttcctccac aacaaccagt 630

<210> 359
 <211> 620
 <212> DNA
 <213> Homo sapien

<400> 359
 acagcattcc aaaatataca tctagagact aarrgtaaat gctctatagt gaagaagtaa 60
 taattaaaaa atgctactaa tatagaaaat ttataatcag aaaaataaat attcagggag 120
 ctaccagaaa gaataaagtg ctctgccagt tattaaagga ttactgctgg tgaattaaat 180
 atggcattcc ccaagggaag tagagagatt cttctggatt atgttcaata tttatttcac 240

```

aggattaact gttttaggaa cagatataaa gcttcgccac ggaagagatg gacaaagcac      300
aaagacaaca tgatacctta ggaagcaaca ctaccctttc aggcataaaa tttggagaaa      360
tgcaacatta tgcttcatga ataatatgta gaaagaaggt ctgatgaaaa tgacatcctt      420
aatgtaagat aactttataa gaattctggg tcaaataaaa ttctttgaag aaaacatcca      480
aatgtcattg acttatcaaa tactatcttg gcatataacc tatgaaggca aaactaaaca      540
aacaaaaagc tcacaccaa caaaaccatc aacttatttt gtattctata acatacgaga      600
ctgtaaagat gtgacagtgt                                     620

```

```

<210> 360
<211> 431
<212> DNA
<213> Homo sapien

```

```

<400> 360
aaaaaaaaaa agccagaaca acatgtgata gataatatga ttggctgcac acttccagac      60
tgatgaatga tgaacgtgat ggactattgt atggagcaca tcttcagcaa gaggggggaaa      120
tactcatcat ttttgccag cagttgtttg atcaccaaac atcatgccag aatactcagc      180
aaaccttctt agctcttgag aagtcaaagt ccgggggaat ttattcctgg caattttaat      240
tggactcctt atgtgagagc agcggtacc cagctggggg ggtggagcga acccgtcact      300
agtggacatg cagtggcaga gtcctgggta accacctaga ggaatacaca ggcacatgtg      360
tgatgccaa gctgacacct gtagcactca aatttgtctt gtttttgtct ttcgggtgtgt      420
agattcttag t                                     431

```

```

<210> 361
<211> 351
<212> DNA
<213> Homo sapien

```

```

<400> 361
acactgattt ccgatcaaaa gaatcatcat ctttaccttg acttttcagg gaattactga      60
actttcttct cagaagatag ggcacagcca ttgccttggc ctcacttgaa gggctctgcat      120
ttgggtcctc tggctctctg ccaagtttcc cagccactcg agggagaaat atcgggaggt      180
ttgacttctt ccgggggttt cccgagggct tcaccgtgag cctgcggcc ctcagggtcg      240
caatcctgga ttcaatgtct gaaacctcgc tctctgcctg ctggacttct gaggcgtca      300
ctgccactct gtctccagc tctgacagct cctcatctgt ggtcctgttg t                                     351

```

```

<210> 362
<211> 463
<212> DNA
<213> Homo sapien

```

```

<400> 362
acttcatcag gccataatgg gtgcctcccg tgagaatcca agcacctttg gactgcgcga      60
tgtagatgag ccggtgaag atcttgcgca tgcgcggtt caggcggaag ttcttggcgc      120
ccccggtcac agaaatgacc aggttgggtg ttttcagggt ccagtgtctg gtcagcagct      180
cgtaaaggat ttccgcgtcc gtgtcgcagg acagacgtat atacttccct ttcttcccca      240
gtgtctcaaa ctgaatatcc ccaaaggcgt cggtaggaaa ttcttgggtg tgtttcttgt      300
agttccattt ctcacttttg ttgatctggg tgccttccat gtgctggctc tgggcatagc      360
cacacttgca cacattctcc ctgataagca cgatggtgtg gacaggaagg aaggatttca      420
ttgagcctgc ttatggaaac tggatttggt agcttaaata gac                                     463

```

```

<210> 363
<211> 653
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature

```

<222> (1) ... (653)

<223> n = A,T,C or G

<400> 363

acccccgagt	ncctgnctgg	catactgnga	acgaccaacg	acacacccaa	gctcggcctc	60
ctcttgngga	ttctgggtga	catcttcatg	aatggcaacc	gtgccagwga	ggctgtcctc	120
tgggaggcac	tacgcaagat	gggactgegt	cctgggggtga	gacatcctct	ccttgagat	180
ctaacgaaac	ttctcaccta	tgagttgtaa	agcagaaata	cctgnactac	agacgagtgc	240
ccaacagcaa	ccccccggaa	gtatgagttc	ctctrgggcc	tccgttccta	ccatgagasc	300
tagcaagatg	naagtgttga	gantcattgc	agaggttcag	aaaagagacc	cntcgtgact	360
ggtctgcaca	gttcatggag	gctgcagatg	aggccttgga	tgctctggat	gctgctgcag	420
ctgaggccga	agcccgggct	gaagcaagaa	cccgcattgg	aattggagat	gaggctgtgt	480
ntgggcccctg	gagctgggat	gacattgagt	ttgagctgct	gacctgggat	gaggaaggag	540
attttgagaga	tccntgggtcc	agaattccat	ttaccttctg	ggccagatac	caccagaatg	600
cccgtccag	attccctcag	acctttgccc	gtcccattat	tggtcstggt	ggt	653

<210> 364

<211> 401

<212> DNA

<213> Homo sapien

<400> 364

actagaggaa	agacgttaaa	ccactctact	accacttggtg	gaactctcaa	agggtaaatg	60
acaaagccaa	tgaatgactc	taaaaacaat	atttacattt	aatggtttgt	agacaataaa	120
aaaacaagggt	ggatagatct	agaattgtaa	cattttaaga	aaaccatagc	atttgacaga	180
tgagaaagct	caattataga	tgcaaagtta	taactaaact	actatagtag	taaagaaata	240
catttcacac	ccttcatata	aattcactat	cttggttga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaatcttta	tatttgctat	ggcgttgac	tagaggactt	ggactgcaac	360
aagtggatgc	gcggaaaatg	aaatcttctt	caatagccca	g		401

<210> 365

<211> 356

<212> DNA

<213> Homo sapien

<400> 365

ccagtgtcat	atttgggctt	aaaatttcaa	gaagggcact	tcaaattggct	ttgcatttgc	60
atgtttcagt	gctagagcgt	aggaatagac	cctggcgctc	actgtgagat	gttcttcagc	120
taccagagca	tcaagtctct	gcagcaggtc	attcctgggt	aaagaaatga	cttcacaaa	180
ctctccatcc	cctggctttg	gcttcggcct	tgcgttttcg	gcacatctc	cgtaaatggt	240
gactgtcacg	atgtgtatag	tacagtttga	caagcctggg	tccatacaga	ccgctggaga	300
acattcggca	atgtcccctt	tgtagccagt	ttcttcttcg	agctcccggga	gagcag	356

<210> 366

<211> 1851

<212> DNA

<213> Homo sapien

<400> 366

tcatcaccat	tgccagcagc	ggcaccgtta	gtcaggtttt	ctgggaatcc	cacatgagta	60
cttccgtgtt	cttcattctt	cttcaatagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcacttcctt	taagcctttg	tgactcttcc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgctgtttt	cagaagagat	ttttaacatc	tggttttctt	tgtagtcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	ccgtctttcc	agatcttgag	300
aagatacatc	aacattttgc	tcaagtagag	ggctgactat	acttgetgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatata	tatccagcgc	atttaaattc	gcttttttct	420
tgattaaaaa	tttcaccact	tgctgttttt	gtcatgtat	accaagtagc	agtgggtgta	480
ggccatgctt	gttttttgat	tcgatatcag	caccgtataa	gagcagtgct	ttggccatta	540

atttatcttc	attgtagaca	gcatagtgtg	gagtggtatt	tccatactca	tctggaatat	600
ttggatcagt	gccatgttcc	agcaacatta	acgcacattc	atcttcctgg	cattgtacgg	660
cctttgtcag	agctgtcctc	tttttgttgt	caaggacatt	aagttgacat	cgtctgtcca	720
gcacgagttt	tactacttct	gaattcccat	tggcagaggg	cagatgtaga	gcagtcctct	780
tttgcttgtc	cctcttggtc	acatccgtgt	ccctgagcat	gacgatgaga	tcctttctgg	840
ggactttacc	ccaccaggca	gctctgtgga	gcttgtccag	atcttctcca	tggacgtggt	900
acctgggac	catgaaggcg	ctgtcatcgt	agtctcccca	agcgaccacg	ttgctcttgc	960
cgctcccctg	cagcagggga	agcagtggca	gcaccacttg	cacctcttgc	tcccaagcgt	1020
cttcacagag	gagtcgttgt	ggtctccaga	agtgtcccag	ttgctcttgc	cgctcccct	1080
gtccatccag	ggaggaagaa	atgcaggaaa	tgaaagatgc	atgcacgatg	gtatactcct	1140
cagccatcaa	acttctggac	agcaggtcac	ttccagcaag	gtggagaaag	ctgtccaccc	1200
acagaggatg	agatccagaa	accacaatat	ccattcacaa	acaaacactt	ttcagccaga	1260
cacagggtact	gaaatcatgt	catctgcggc	aacatggtgg	aacctaccca	atcacacatc	1320
aagagatgaa	gacactgcag	tatatctgca	caacgtaata	ctcttcatcc	ataacaaaat	1380
aatataattt	tcctctggag	ccatatggat	gaactatgaa	ggaagaactc	cccgaagaag	1440
ccagtcgcag	agaagccaca	ctgaagctct	gtcctcagcc	atcagcgcca	cggacaggag	1500
tgtgtttctt	ccccagtgt	gcagcctcaa	gttatcccga	agctgccgca	gcacacggtg	1560
gctcctgaga	aacaccccag	ctcttccggt	ctaacacagg	caagtcaata	aatgtgataa	1620
tcacataaac	agaattaaaa	gcaaagtcac	ataagcatct	caacagacac	agaaaaggca	1680
tttgacaaaa	tccagcatcc	ttgtatttat	tgttgagtt	ctcagaggaa	atgcttctaa	1740
cttttcccca	tttagtatta	tgttggtgtg	gggcttggtc	taggtggttt	ttattacttt	1800
aaggatatgtc	ccttctatgc	ctgttttgct	gagggtttta	attctcgtgc	c	1851

<210> 367

<211> 668

<212> DNA

<213> Homo sapien

<400> 367

cttgagcttc	caaataygga	agactggccc	ttacacasgt	caatgttaaa	atgaatgcat	60
ttcagtatatt	tgaagataaa	atrrgtagat	ctataccttg	ttttttgatt	cgatatcagc	120
accrtataag	agcagtgtct	tggccattaa	tttatctttc	atrrtagaca	gcrtagtgga	180
gagtggtatt	tccatactca	tctggaatat	ttggatcagt	gccaatgttcc	agcaacatta	240
acgcacattc	atcttcctgg	cattgtacgg	cctgtcagta	ttagacccaa	aaacaaatta	300
catatcttag	gaattcaaaa	taacattcca	cagctttcac	caactagtta	tatttaaagg	360
agaaaactca	tttttatgcc	atgtattgaa	atcaaaccce	cctcatgctg	atatagtgtg	420
ctactgcata	cctttatcag	agctgtcctc	tttttgttgt	caaggacatt	aagttgacat	480
cgtctgtcca	gcaggagttt	tactactttc	gaattcccat	tggcagaggg	cagatgtaga	540
gcagtcctat	gagagtgtga	agacttttta	ggaaattgtg	gtgcactagc	tacagccata	600
gcaatgatcc	atgtaactgc	aaacactgaa	tagcctgcta	ttactctgcc	ttcaaaaaaa	660
aaaaaaaa						668

<210> 368

<211> 1512

<212> DNA

<213> Homo sapien

<400> 368

gggtgcacca	gggggsgcgt	gggctttcct	cgggtgggtg	tgggttttcc	ctgggtgggg	60
tgggtcgggc	trgaatcccc	tgctgggggt	ggcaggtttt	ggctgggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagtgtgt	gaaactgggt	ggtagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tgtaaaaagc	agatggtggt	tgaggttgat	240
tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tgggtgctgc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tgagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagt	600

gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctgggtggg	gtaaagtccc	cagaaaggat	ctcatcgta	tgctcaggga	cactgacgtg	720
aacaagaagg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tataygggtg	tgatatcgaa	1020
tcaaaaaaca	aggtatagat	ctactaattt	tatcttcaaa	atactgaaat	gcattcattt	1080
taacattgac	gtgtgtaagg	gccagtcttc	cgtatttgga	agctcaagca	taacttgaat	1140
gaaaatattt	tgaaatgacc	taattatctm	agactttatt	ttaaatattg	ttattttcaa	1200
agaagcatta	gaggggtacag	tttttttttt	ttaaatgcac	ttctggtaaa	tacttttggt	1260
gaaaacactg	aatttgtaaa	aggtaatact	tactattttt	caatttttcc	ctcctaggat	1320
ttttttcccc	taatgaatgt	aagatggcaa	aatttgccct	gaaatagggt	ttacatgaaa	1380
actccaagaa	aagttaaaca	tgtttcagtg	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatatagatac	gaggtgatgc	gcctgtcagt	ggcaagggtt	aagatatttc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

gggtcgccca	ggggsgcggt	gggctttcct	cggggtgggtg	tgggttttcc	ctgggtgggg	60
tggtgctggc	trgaatcccc	tgctgggggt	ggcaggtttt	ggctgggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagtgggt	gaaactgggt	ggtagacgcg	180
atctgttggc	tactactggc	ttctcctggc	tgttaaaagc	agatgggtgg	tgaggttgat	240
tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tgagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagy	600
gccttcatgg	akcccaggta	ccacgtccrt	ggagaagatc	tggacaagct	ccacagagct	660
gcctgggtggg	gtaaagtccc	cagaaaggat	ctcatcgta	tgctcaggga	cackgaygtg	720
aacaagargg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tataygggtg	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacaccactg	ytacttggtg	tacatgagca	aaaacagcaa	1080
gtsgtgaaat	ttttaatyaa	gaaaaaagcg	aatttaaaat	gcrctggata	gatatggaag	1140
ractgctctc	atacttgctg	tatgttgtgg	atcagcaagt	atagtcagcc	ytctacttga	1200
gcaaaaatrtt	gatgtatctt	ctcaagatct	ggaaagacgg	ccagagagta	tgctgtttct	1260
agtcatcatc	atgtaatttg	ccagttactt	tctgactaca	aagaaaaaca	gatgttaaaa	1320
atctcttctg	aaaacagcaa	tccagaacaa	gacttaaacg	tgacatcaga	ggaagagtca	1380
caaaggctta	aagggaagtga	aaacagccag	ccagaggcat	ggaaactttt	aaatttaaac	1440
tttttggttta	atgttttttt	tttttgccct	aataatatta	gatagtccca	aatgaaatwa	1500
cctatgagac	taggctttga	gaatcaatag	attctttttt	taagaatctt	ttggctagga	1560
gcggtgtctc	acgcctgtaa	ttccagcacc	ttgagaggct	gaggtgggca	gatcacgaga	1620
tcaggagatc	gagaccatcc	tggttaaacac	ggtgaaaccc	catctctact	aaaaatacaa	1680
aaacttagct	gggtgtgggtg	gcgggtgcct	gtagtccag	ctactcagga	rgctgaggca	1740
ggagaatggc	atgaaccggg	gaggtggagg	ttgcagtga	ccgagatccg	ccactacact	1800
ccagcctggg	tgacagagca	agactctgtc	tcaaaaaaaa	aaaaaaaaaa	aaa	1853

<210> 370

<211> 2184

<212> DNA

<213> Homo sapien

<400> 370

ggcaccgagaa	ttaaaaccct	cagcaaaaaca	ggcatagaag	ggacatacct	taaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atggggaaaa	gttagaagca	120
tttctcttga	gaactgcaac	aataaatata	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
ctgcggcagc	ttcgggataa	cttgaggctg	catcactggg	gaagaaacac	aytcctgtcc	360
gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttcttcgg	420
ggagttcttc	cttcatagtt	catccatatg	gctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcactctt	tgatgtgtga	540
ttgggtaggt	tccaccatgt	tgccgcagat	gacatgattt	cagtacctgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatattgtgg	tttctggatc	tcactctctg	tgggtggaca	660
gctttctcca	ccttgctgga	agtgcactgc	tgtccagaag	tttgatggct	gaggagtata	720
ccatcgtgca	tgcactcttc	atttctctga	tttcttcttc	cctggatgga	cagggggagc	780
ggcaagagca	acgtgggcac	ttctggagac	cacaacgact	cctctgtgaa	gacgcttggg	840
agcaagaggt	gcaagtgggtg	ctgccactgc	ttcccctgct	gcaggggagc	ggcaagagca	900
acgtggctgc	ttggggagac	tacgatgaca	gcgccttcat	ggatcccagg	taccacgtcc	960
atggagaaga	tctggacaag	ctccacagag	ctgcctgggtg	gggtaaagtc	cccagaaagg	1020
atctcatcgt	catgctcagg	gacacggatg	tgaacaagag	ggacaagcaa	aagaggactg	1080
ctctacatct	ggcctctgcc	aatgggaatt	cagaagtagt	aaaactcgtg	ctggacagac	1140
gatgtcaact	taatgtcctt	gacaacaaaa	agaggacagc	tctgacaaag	gccgtacaat	1200
gccaggaaga	tgaatgtgcg	ttaatgttgc	tggaaacatgg	caactgatcca	aatattccag	1260
atgagtatgg	aaataccact	ctacactatg	ctgtctacaa	tgaagataaa	ttaatggcca	1320
aagcactgct	cttatacggg	gctgatatcg	aatcaaaaaa	caagcatggc	ctcacaccac	1380
tgctacttgg	tatacatgag	caaaaacagc	aagtgggtgaa	atttttaatc	aagaaaaaag	1440
cgaattttaa	tgcgctggat	agatatggaa	gaactgctct	catacttgct	gtatgttgtg	1500
gatcagcaag	tatagtcagc	cctctacttg	agcaaaatgt	tgatgtatct	tctcaagatc	1560
tggaaagacg	gccagagagt	atgctgtttc	tagtcatcat	catgtaatct	gccagttact	1620
ttctgactac	aaagaaaaac	agatgttaaa	aatctcttct	gaaaacagca	atccagaaca	1680
agacttaaa	ctgacatcag	aggaagagtc	acaaaggctt	aaaggaagtg	aaaacagcca	1740
gccagaggca	tggaaacttt	taaattttaa	cttttgggtt	aatgtttttt	ttttttgcct	1800
taataatatt	agatagtccc	aaatgaaatw	acctatgaga	ctaggctttg	agaatcaata	1860
gattcttttt	ttaagaatct	tttggctagg	agcgggtgtc	cacgcctgta	attccagcac	1920
cttgagaggc	tgaggtgggc	agatcacgag	atcaggagat	cgagaccatc	ctggctaaca	1980
cgggtgaaac	ccatctctac	taaaaatata	aaaacttagc	tgggtgtggg	ggcgggtgcc	2040
tgtagtccca	gtacttcagg	argctgaggc	aggagaatgg	catgaacccg	ggaggtggag	2100
gttgacgtga	gccagatcc	gccactacac	tccagcctgg	gtgacagagc	aagactctgt	2160
ctcaaaaaaa	aaaaaaaaaa	aaaaa				2184

<210> 371

<211> 1855

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1855)

<223> n = A,T,C or G

<400> 371

tgcacgcate	ggccagtgtc	tgtgccacgt	acactgacgc	cccctgagat	gtgcacgccg	60
cacgcgcacg	ttgcacgcgc	ggcagcggct	tggctggctt	gtaacggctt	gcacgcgcac	120
gccgcccccg	cataaccgtc	agactggcct	gtaacggctt	gcagggcgac	gccgcacgcg	180
cgtaacggct	tggctggcct	gtaacggctt	gcacgtgcat	gctgcacgcg	cgtaaacggc	240
ttggctggca	tgtagccgct	tggcttggct	ttgcattt	tgctkggctk	ggcgttgkty	300
tcttggattg	acgcttcctc	cttggatkga	cgtttctctc	ttggatkga	gtttctytyt	360

tcgcgttcct	ttgctggact	tgacctttty	tctgctgggt	ttggcattcc	tttggggtgg	420
gctgggtggt	ttctccgggg	gggktkgccc	ttcttggggg	gggcgtgggk	cgccccagg	480
gggcgtgggc	tttccccggg	tgggtgtggg	ttttcttggg	gtggggtggg	ctgtgctggg	540
atccccctgc	tggggttggc	agggattgac	ttttttcttc	aaacagattg	gaaacccgga	600
gtaacntgct	agttggtgaa	actggttggg	agacgcgac	tgctggtact	actgtttctc	660
ctggctgtta	aaagcagatg	gtggctgagg	ttgattcaat	gccggctgct	tcttctgtga	720
agaagccatt	tgggtctcagg	agcaagatgg	gcaagtgggt	cgccactgct	tccccgtctg	780
cagggggagc	ggcaagagca	acgtggggcac	ttctggagac	cacaacgact	cctctgtgaa	840
gacgcttggg	agcaagaggt	gcaagtgggt	ctgcccactg	cttccccctgc	tgcaggggag	900
cggcaagagc	aacgtggkcg	cttgggggaga	ctacgatgac	agcgccttca	tggakcccag	960
gtaccacgtc	crtggagaag	atctggacaa	gctccacaga	gctgcctggg	ggggtaaagt	1020
ccccagaaag	gatctcatcg	tcatgctcag	ggacactgay	gtgaacaaga	rggacaagca	1080
aaagaggact	gctctacatc	tggcctctgc	caatgggaat	tcagaagtag	taaaactcgt	1140
gctggacaga	cgatgtcaac	ttaatgtcct	tgacaacaaa	aagaggacag	ctctgacaaa	1200
ggccgtacaa	tgccaggaag	atgaatgtgc	gttaatgttg	ctggaacatg	gcactgatcc	1260
aaatattcca	gatgagtatg	gaaataccac	tctacactat	gctgtctaca	atgaagataa	1320
attaatggcc	aaagcactgc	tcttatacgg	tgctgatatc	gaatcaaaaa	acaaggtata	1380
gatctactaa	ttttatcttc	aaaatactga	aatgcattca	ttttaacatt	gacgtgtgta	1440
agggccagtc	ttccgtattt	ggaagctcaa	gcataacttg	aatgaaaata	ttttgaaatg	1500
acctaattat	ctaagacttt	attttaata	ttgttatttt	caaagaagca	ttagagggta	1560
cagttttttt	tttttaaatg	cacttctggg	aaatactttt	gttgaaaaca	ctgaattttg	1620
aaaaggtaat	acttactatt	tttcaatttt	tccctcctag	gatttttttc	ccctaattgaa	1680
tgtaagatgg	caaaatttgc	cctgaaatag	gttttatactg	aaaactccaa	gaaaagttaa	1740
acatgtttca	gtgaatagag	atcctgctcc	tttggcaagt	tcctaaaaaa	cagtaataga	1800
tacgaggtga	tgcgcctgtc	agtggcaagg	tttaagatat	ttctgatctc	gtgcc	1855

<210> 372

<211> 1059

<212> DNA

<213> Homo sapien

<400> 372

gcaacgtggg	cacttctgga	gaccacaacg	actcctctgt	gaagacgctt	gggagcaaga	60
ggtgcaagtg	gtgctgccc	ctgcttcccc	tgctgcaggg	gagcggcaag	agcaacgtgg	120
gcgcttgrgg	agactmcgat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
aagatctgga	caagctccac	agagctgccc	tgggtgggta	aagtccccag	aaaggatctc	240
atcgtcatgc	tcaggggacac	tgaygtgaac	aagarggaca	agcaaaaagag	gactgctcta	300
catctggcct	tcgccaatgg	gaattcagaa	gtagtataaac	tctgctgga	cagacgatgt	360
caacttaatg	ctcttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgcgttaat	gttgctggaa	catggcactg	atccaaatat	tccagatgag	480
tatggaaata	ccactctrca	ctaygctrct	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttat	aygggtgctga	tatcgaatca	aaaaacaagg	tatagatcta	ctaattttat	600
cttcaaaaata	ctgaaatgca	ttcattttta	cattgacgtg	tgtaagggcc	agtcttccgt	660
at ttggaagc	tcaagcataa	cttgaatgaa	aatatttttg	aatgacctaa	ttatctaaga	720
ctttattttta	aatattgtta	ttttcaaaga	agcatttagag	ggtacagtgt	ttttttttta	780
aatgcacttc	tggtaaatac	ttttgttgaa	aacactgaat	ttgtaaaagg	taatacttac	840
tattttttcaa	tttttccctc	ctaggatttt	tttccccctaa	tgaatgtaag	atggcaaaat	900
ttgccctgaa	ataggtttta	catgaaaact	ccaagaaaag	ttaaacaatgt	ttcagtgaat	960
agagatcctg	ctcctttggc	aagttcctaa	aaaacagtaa	tagatacgag	gtgatgcgcc	1020
tgtcagtggc	aaggtttaag	atattttctga	tctcgtgcc			1059

<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

atggtggttg	aggttgatcc	catgccgggt	gcctcttctg	tgaagaagcc	at ttggtctc	60
------------	------------	------------	------------	------------	-------------	----

aggagcaaga	tgggcaagt	gtgctgccgt	tgcttcccc	gctgcaggga	gagcggcaag	120
agcaacgtg	gcacttctg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgctgcagg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccaggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgcgttaa	tggtgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaaata	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaatc	aaaaaacaag	catggcctca	caccactgtt	acttggtgta	840
catgagcaaa	aacagcaagt	cgtgaaat	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttggtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaatt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	tgtctcaaga	1140
accagaaata	aataa					1155

<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

atggtggttg	aggttgattc	catgccggct	gcctcttctg	tgaagaagcc	atttggtctc	60
aggagcaaga	tgggcaagt	gtgctgccgt	tgcttcccc	gctgcaggga	gagcggcaag	120
agcaacgtg	gcacttctg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgccgcca	ctgcttcccc	tgctgcagg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccaggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgcgttaa	tggtgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaaata	tggccaaagc	actgctctta	780
tatggtgctg	atatcgaatc	aaaaaacaag	catggcctca	caccactgtt	acttggtgta	840
catgagcaaa	aacagcaagt	cgtgaaat	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttggtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaatt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaca	agacttaag	1140
ctgacatcag	aggaagagtc	acaaagggtc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtctcaag	aaccagaaat	aaataaggat	ggtgatagag	aggttgaaga	agaaatgaag	1260
aagcatgaaa	gtaataatgt	gggattacta	gaaaacctga	ctaattggtgt	cactgctggc	1320
aatggtgata	atggattaat	tcctcaaagg	aagagcagaa	cacctgaaaa	tcagcaat	1380
cctgacaacg	aaagtgaaga	gtatcacaga	atttgcgaa	tagtttctga	ctacaaagaa	1440
aaacagatgc	caaaatactc	ttctgaaaac	agcaaccag	aacaagactt	aaagctgaca	1500
tcagaggaag	agtcacaaag	gcttgagggc	agtgaatg	gccagccaga	gctagaaaat	1560
tttatggcta	tcgaagaaat	gaagaagcac	ggaagtactc	atgtcggatt	cccagaaaac	1620
ctgactaatg	gtgccactgc	tggcaatggt	gatgatggat	taattcctcc	aaggaagagc	1680
agaacacctg	aaagccagca	atttcctgac	actgagaatg	aagagtatca	cagtgcagaa	1740
caaaatgata	ctcagaagca	attttgtgaa	gaacagaaca	ctggaatatt	acacgatgag	1800
attctgattc	atgaagaaaa	gcagatagaa	gtggttgaaa	aaatgaattc	tgagcttctc	1860
cttagttgta	agaaagaaaa	agacatcttg	catgaaaata	gtacgttgcg	ggaagaaatt	1920

gccatgctaa gactggagct agacacaatg aaacatcaga gccagctaaa aaaaaaaaaa 1980
 aaaaaaaaaa aaaaaaaaaa 2000

<210> 375
 <211> 2040
 <212> DNA
 <213> Homo sapien

<400> 375
 atgggtggttg aggttgattc catgccggct gcctcttctg tgaagaagcc atttgggtctc 60
 aggagcaaga tgggcaagtg gtgctgccgt tgcttcccct gctgcaggga gagcggaag 120
 agcaacgtgg gcacttctgg agaccacgac gactctgcta tgaagacact caggagcaag 180
 atgggcaagt ggtgccgcca ctgcttcccc tgctgcaggg ggagtggcaa gagcaacgtg 240
 ggcgcttctg gagaccacga cgactctgct atgaagacac tcaggaacaa gatgggcaag 300
 tgggtgctgcc actgcttccc ctgctgcagg gggagcggca agagcaaggt gggcgcttgg 360
 ggagactacg atgacagtgc cttcatggag cccaggtacc acgtccgtgg agaagatctg 420
 gacaagctcc acagagctgc ctggtggggg aaagtcacca gaaaggatct catcgctatg 480
 ctgagggaca ctgacgtgaa caagaaggac aagcaaaaga ggactgctct acatctggcc 540
 tctgccaatg ggaattcaga agtagtaaaa ctctgctgg acagacgatg tcaacttaat 600
 gtccttgaca acaaaaagag gacagctctg ataaaggccg tacaatgcca ggaagatgaa 660
 tgtgcgttaa tgttgctgga acatggcact gatccaaata ttccagatga gtatggaaat 720
 accactctgc actacgctat ctataatgaa gataaattaa tggccaaagc actgctctta 780
 tatgggtgctg atatcgaatc aaaaaacaag catggcctca caccactgtt acttgggtga 840
 catgagcaaaa aacagcaagt cgtgaaatct ttaatcaaga aaaaagcgaa tttaaatgca 900
 ctggatagat atggaaggac tgctctcata ctgtctgtat gttgtggatc agcaagtata 960
 gtcagccttc tacttgagca aaatattgat gtatcttctc aagatctatc tggacagacg 1020
 gccagagagt atgctgtttc tagtcatcat catgtaattt gccagttact ttctgactac 1080
 aaagaaaaac agatgctaaa aatctcttct gaaaacagca atccagaaca agacttaag 1140
 ctgacatcag aggaagagtc acaaagggtc aaaggcagtg aaaatagcca gccagagaaa 1200
 atgtctcaag aaccagaaat aaataaggat ggtgatagag aggttgaaga agaaatgaag 1260
 aagcatgaaa gtaataatgt gggattacta gaaaacctga ctaatgggtg cactgctggc 1320
 aatggtgata atggattaat tcctcaaagg aagagcagaa cacctgaaaa tcagcaattt 1380
 cctgacaacg aaagtgaaga gtatcacaga atttgcgaat tagtttctga ctacaaagaa 1440
 aaacagatgc caaaatactc ttctgaaaac agcaaccag aacaagactt aaagctgaca 1500
 tcagaggaag agtcacaaag gcttgagggc agtgaaaatg gccagccaga gaaaagatct 1560
 caagaaccag aaataaataa ggatgggtgat agagagctag aaaattttat ggctatcgaa 1620
 gaaatgaaga agcacggaag tactcatgtc ggattcccag aaaacctgac taatgggtgcc 1680
 actgctggca atgggtgatg tggattaatt cctccaagga agagcagaac acctgaaagc 1740
 cagcaatttc ctgacactga gaatgaagag tatcacagtg acgaacaaaa tgatactcag 1800
 aagcaatttt gtgaagaaca gaacactgga atattacacg atgagattct gattcatgaa 1860
 gaaaagcaga tagaagtggg tgaaaaaatg aattctgagc ttctcttag ttgtaagaaa 1920
 gaaaaagaca tcttgcataa aaatagtacg ttgcgggaag aaattgccat gctaagactg 1980
 gagctagaca caatgaaaca tcagagccag ctaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2040

<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376
 Met Asp Ile Val Val Ser Gly Ser His Pro Leu Trp Val Asp Ser Phe
 1 5 10 15
 Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
 20 25 30
 Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
 35 40 45
 Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
 50 55 60

Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
 65 70 75 80
 Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
 85 90 95
 Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
 100 105 110
 His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
 115 120 125
 Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
 290 295 300
 Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
 325

<210> 377

<211> 148

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(148)

<223> Xaa = Any Amino Acid

<400> 377

Met Thr Xaa Pro Ser Trp Ser Pro Gly Thr Thr Ser Val Glu Lys Ile
 1 5 10 15
 Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
 20 25 30
 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95

Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378
 <211> 1719
 <212> PRT
 <213> Homo sapien

<400> 378
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val

	340		345		350
Ile Cys Gln	Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile				
355		360		365	
Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys					
370		375		380	
Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser					
385		390		395	400
Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys					
	405		410		415
Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly					
	420		425		430
Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys					
	435		440		445
Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly					
	450		455		460
Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys					
465		470		475	480
Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys					
	485		490		495
Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp					
	500		505		510
Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu					
	515		520		525
Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp					
	530		535		540
Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln					
545		550		555	560
Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val					
	565		570		575
Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn					
	580		585		590
Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu					
	595		600		605
Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp					
	610		615		620
Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys					
625		630		635	640
Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys					
	645		650		655
Asn Lys His Gly Leu Thr Pro Leu Leu Gly Val His Glu Gln Lys					
	660		665		670
Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala					
	675		680		685
Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly					
	690		695		700
Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser					
705		710		715	720
Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser					
	725		730		735
His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln					
	740		745		750
Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys					
	755		760		765
Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser					
	770		775		780
Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp					
785		790		795	800
Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly					

1265 1270 1275 1280
 Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr
 1285 1290 1295
 Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp
 1300 1305 1310
 Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val
 1315 1320 1325
 His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala
 1330 1335 1340
 Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala
 1345 1350 1355 1360
 Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn
 1365 1370 1375
 Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr
 1380 1385 1390
 Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr
 1395 1400 1405
 Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu
 1410 1415 1420
 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly
 1425 1430 1435 1440
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn
 1445 1450 1455
 Lys Asp Gly Asp Arg Glu Val Glu Glu Met Lys Lys His Glu Ser
 1460 1465 1470
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly
 1475 1480 1485
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu
 1490 1495 1500
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys
 1505 1510 1515 1520
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
 1525 1530 1535
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu
 1540 1545 1550
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe
 1570 1575 1580
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe
 1585 1590 1595 1600
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly
 1605 1610 1615
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
 1620 1625 1630
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln
 1635 1640 1645
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
 1650 1655 1660
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser
 1665 1670 1675 1680
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
 1685 1690 1695
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr
 1700 1705 1710
 Met Lys His Gln Ser Gln Leu
 1715

<210> 379
 <211> 656
 <212> PRT
 <213> Homo sapien

<400> 379
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415

Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
 625 630 635 640
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
 645 650 655

<210> 380

<211> 671

<212> PRT

<213> Homo sapien

<400> 380

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala


```
<210> 381
<211> 251
<212> DNA
<213> Homo sapien
```

```
<210> 382
<211> 3279
<212> DNA
<213> Homo sapiens
```

BNSDOCID: <WO 0134802A2 | >

```

tttactaagt tttcagactg gcaggaagtc aaacctatta ggctgaggac cttgtggagt 2100
gtagctgate cagctgatag aggaactagc caggtggggg ctttccctt tggatggggg 2160
gcatatccga cagttattct ctccaagtgg agacttacgg acagcatata attctccctg 2220
caaggatgta tgataatatg tacaaagtaa ttccaactga ggaagctcac ctgatacctta 2280
gtgtccaggg tttttactgg ggggtctgtag gacgagtatg gagtacttga ataattgacc 2340
tgaagtcctc agacctgagg ttcccttagag ttcaaacaga tacagcatgg tccagagtcc 2400
cagatgtaca aaaacagggg ttcatacaca atccccatctt tagcatgaag ggtctggcat 2460
ggcccaaggc cccaagtata tcaaggcact tgggcagaac atgccaagga atcaaagtgc 2520
atctcccagg agttattcaa gggtagagccc tttacttggg atgtacaggc tttgagcagt 2580
gcagggtcgc tgagtcaacc ttttattgta caggggatga gggaaagggg gaggatgagg 2640
aagccccctt ggggatttgg tttggtcttg tgatcaggtg gtctatgggg ctatccctac 2700
aaagaagaat ccagaaatag gggcacattg aggaatgata ctgagcccaa agagcattca 2760
atcattgttt tatttgcctt cttttcacac cattggtgag ggagggatta ccaccctggg 2820
gttatgaaga tggttgaaca cccacacacat agcaccggag atatgagatc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca ggatgacatg 2940
ggggatgctc tcgggatttg tgtgaagaag caaggactgt tagaggcagg ctttatagta 3000
acaagacggg ggggcaaact ctgatttccg tgggggaatg tcatggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaaactcat taggctgaga accttgtgga atgcagctga 3120
cccagctgat agaggaagta gccaggtggg agcctttccc agtgggtgtg ggacatatct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaatctt 3240
gttttcagac cttaaaaaaa aaaaaaaaaa aaaagtttt 3279

```

<210> 383

<211> 154

<212> PRT

<213> Homo sapiens

<400> 383

```

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
          5                      10                      15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
          20                      25                      30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
          35                      40                      45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
          50                      55                      60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
          65                      70                      75                      80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
          85                      90                      95

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
          100                     105                     110

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
          115                     120                     125

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
          130                     135                     140

Ala Leu Glu Arg Gly His Leu Val Arg Glu
          145                     150

```


<210> 384
<211> 557
<212> DNA
<213> Homo sapiens

<400> 384
ggatcctcta gagcgccgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60
aaagatgtgt tttgttttg actctctgtg gtcccttcca atgctgtggg tttccaacca 120
ggggaagggt cctttttgca ttgccaagtg ccataaccat gagcactact ctaccatggg 180
tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240
acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
ctctgtagag agcagcattc ccagggacct tggaaacagt tggcactgta aggtgcttgc 360
tccccaagac acatcctaaa aggtgttgta atggtgaaaa cgtcttcctt ctttattgcc 420
ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaagt 480
tcaattgtga aaatgaatat catgcaaata aattatgcga tttttttttc aaagtaaaaa 540
aaaaaaaaa aaaaaaa 557

<210> 385
<211> 337
<212> DNA
<213> Homo sapiens

<400> 385
ttcccagggt atgtgcgagg gaagacacat ttactatcct tgatggggct gattccttta 60
gtttctctag cagcagatgg gttaggagga agtgacccaa gtgggttgact cctatgtgca 120
tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacttag 240
tatcagacag gtccagtttc cgcaccaaca cctgctgggt cctgtgctgt gtctggatct 300
ctttggccac caattccccc ttttccacat cccggca 337

<210> 386
<211> 300
<212> DNA
<213> Homo sapiens

<400> 386
gggcccgccta ccggcccagg ccccgccctcg cgagtccctc tccccgggtg cctgcccgcga 60
gcccgcctcg cccagagggt gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120
gcgaccttgg cccgaaggct ctagcaagga ccaccgacc ccagccgcg cggcggcggc 180
gcggaacttg cccggtgtgt ggggcggagc ggactgctg tccgcggacg ggcagcgaag 240
atgttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
<211> 537
<212> DNA
<213> Homo sapiens

<400> 387
gggcccagtc gggcaccaag ggactctttg caggcttccct tcctcggatc atcaaggctg 60
ccccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120
tgaaccagga ccggtctctg ggcggtgaa aggggcaagg aggcaaggac cccgtctctc 180
ccacggatgg ggagagggca ggaggagacc cagccaagtg ccttttcctc agcactgagg 240
gagggggctt gtttcccttc cctcccggcg acaagctcca gggcagggtg gtccctctgg 300
gcggcccagc acttccctcag acacaacttc ttctgctgc tccagtcgtg gggatcatca 360
cttaccacc ccccaagttc aagaccaaact ctccagctg ccccttcgt gtttccctgt 420
gtttgctgta gctgggcatg tctccaggaa ccaagaagcc ctcagcctgg tgtagctctc 480
ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaaa aaaaaaa 537

<210> 388
 <211> 520
 <212> DNA
 <213> Homo sapiens

<400> 388
 aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
 tgagggttaaa ccagtttgca ttcccctaata gtggaaaaag taagaggact actcagcact 120
 gtttgaagat tgctcttctt acagcttctg agaatttgtt tatttcactt gccaaagtga 180
 ggacccccctc cccaacatgc cccagcccac ccctaagcat ggtcccttgt caccaggcaa 240
 ccaggaaact gctacttgtg gacctcacca gagaccagga gggtttggtt agctcacagg 300
 acttccccca cccagaaga ttagcatccc atactagact cataactcaac tcaactaggc 360
 tcataactcaa ttgatgggta ttagacaatt ccatttcttt ctgggtatta taaacagaaa 420
 atctttctctc ttctcattac cagtaaaggc tcttggtatc tttctggttg aatgatttct 480
 atgaacttgt cttattttaa tgggtgggtt ttttctggt 520

<210> 389
 <211> 365
 <212> DNA
 <213> Homo sapiens

<400> 389
 cgttgccccg gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
 gagttaaggc tggatttcag atctgcctgg ttccagccgc agtgtgccct ctgctcccc 120
 aacgactttc caaataatct caccagcgcc ttccagctca ggcgtcctag aagcgtcttg 180
 aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtcctcac agctgagact 240
 cccaggaaac cttcagacta cttcctctg ccttcagcaa ggggcgttgc ccacattctc 300
 tgagggtcag tgaagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
 gggag 365

<210> 390
 <211> 221
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(221)
 <223> n = A,T,C or G

<400> 390
 tgctctcca tcctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
 tacacggntt ctcatgggtg tggaacatct ctgcttgccg ttccaggaag gcctctggct 120
 gctctangag tctgancnga ntcgttgccc cantntgaca naaggaaagg cggagcttat 180
 tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221

<210> 391
 <211> 325
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391

```

tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60
ctctcgcgcc cagcctggag ctgctcctgg catctacca caatcagncg aggcgagcag 120
tagccagggc actgctgcca acagccagtc cnnataccat catgtnaccc ggtgngctct 180
naanttngat ntccanagcc ctacccatcn tagttctgct ctcccaccgg ntaccagccc 240
cactgcccag gaatcctaca gccagtaccc tgtcccgcag tctctaccta ccagtacgat 300
gagacctccg gctactacta tgacc                                     325

```

<210> 392

<211> 277

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(277)

<223> n = A,T,C or G

<400> 392

```

atattgttta actccttctt ttatatcttt taacattttc atggngaaag gttcacatct 60
agtctcactt nggcnagn gn ctcctacttg agtctcttcc cgggcctggn ccagtnagnaa 120
antaccanga accgncatgn cttaanaacn ncctggtttn tgggttnntc aatgactgca 180
tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240
ctgaggatag agcgccgcgt cctgtgttgc tggggaa                                     277

```

<210> 393

<211> 566

<212> DNA

<213> Homo sapiens

<400> 393

```

actagtccag tgtggtggaa ttcgcggccg cgtcgacgga caggtcagct gtctggctca 60
gtgatctaca ttctgaagtt gtctgaaaat gtcttcacga ttaaattcag cctaaacggt 120
ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180
gagaaggctc agtttgtcca tcagcattat catgatata ggactgggta cttgggttaag 240
gaggggtcta ggagatctgt cctttttaga gacaccttac ttataatgaa gtatttggga 300
gggtgggttt caaaagtaga aatgtcctgt attccgatga tcacacctga aacattttat 360
catttattaa tcacccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420
ttctgcctca atgtttactg tgcccttgggt tttgctagtt tgtgtgtgtg aaaaaaaaaa 480
cattctctgc ctgagtttta attttctgc aaagttattt taatctatac aattaaaagc 540
ttttgcctat caaaaaaaaa aaaaaa                                     566

```

<210> 394

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(384)

<223> n = A,T,C or G

<400> 394

```

gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
tgcaaattng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
gcaggaggac cgggctttaa ggagttttaa gctgagtgtc actgtagacc ccaaatacca 180
tcccaagatt atcgggagaa agggggcagt aattacccaa atccggttgg agcatgacgt 240
gaacatccag ttctctgata aggacgatgg gaaccagccc caggaccaa ttaccatcac 300
agggtagcaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360

```

tgagcagatg gtttctgagg acgt

384

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```

ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgc 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcattcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcacgtct tccagttacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttggaaagcc tgggcatctc ctactacag acctctgacc atgggacggt 360
gcagcctggg gagaccatcc aatcccaaat aaaatgcac 399

```

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```

tggagttntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctacagaaa 60
gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaa gtggatgaat aatctggata ttttccctaa aaagattcct tgaaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttagggga gggagtggag gataaaagaa ggaaaaaaag aagagtgaga aaacctattt 360
atcaaagcag gtgctatcac tcaatgttag gccctgctct ttt 403

```

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397

```

actagtncag tgtggtggaa ttcgcggccg cgtcgacctc naanccatct ctatagcaaa 60
tccatccccg ctctgggttg gtnacagaat gactgacaaa 100

```

<210> 398

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 398

```

gcgggccgcgt cgacagcagt tccgccagcg ctcccccctg ggtggggatg tgctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcactactgt gcctcgacca gtgaggagag ctggaccgac agcgaggtgg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240
ctatggccgc ttcattangt ggctcaacaa ggagaagg          278

```

<210> 399

<211> 298

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(298)

<223> n = A,T,C or G

<400> 399

```

acggaggtgg aggaagcgc cctgggatcg anaggatggg tectgncatt gaccnccctn 60
ggggtgccng catggagcgc atgggcgcgg gcctgggcca cggcatggat cgcggtgggt 120
ccgagatcga gcgcatgggc ctggtcatgg accgcatggg ctccgtggag cgcatgggt 180
ccggcattga gcgcatgggc ccgctgggccc tcgaccacat ggccctccanc attgancgca 240
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcatggg 298

```

<210> 400

<211> 548

<212> DNA

<213> Homo sapiens

<400> 400

```

acatcaacta ctctctcatt ttaaggatg gcagttccct tcateccctt ttctgcctt 60
gtacatgtac atgtatgaaa ttctcttctc ttaccgaact ctctccacac atcacaaggt 120
caaagaacca cagccttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180
tgagtctctt ttttccacgt ttaaggggcc atggcaggac ttagagttgc gagttaagac 240
tgcagagggc tagagaatta ttccatacag gctttgaggc caccatgtc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360
gttggcccca taattctggg cttttgttgt ttgttttaat tacttgggca tcccaggaag 420
ctttccagt atctctacc atgggcccc ctctgggat caagccccct ccaggccctg 480
tccccagccc ctctgcccc agcccacccg ctgctctgg tgctcagccc tcccattggg 540
agcaggtt          548

```

<210> 401

<211> 355

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(355)

<223> n = A,T,C or G

<400> 401

```

actgtttcca tggtatgttt ctacacattg ctacctcagt gtcctctggaa acttagcttt 60
tgatgtctcc aagtagtcca ctttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtcccc atgggtggcg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnngg tttccaacca ggggaagggt 300

```

cccttttgc^a ttgccaaagtg ccataaccat gagcactact ctaccatggn tctgc 355

<210> 402

<211> 407

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(407)

<223> n = A,T,C or G

<400> 402

atggggcaag	ctggataaag	aaccaagacc	cactggagta	tgctgtcttc	aagaaaccca	60
tctcacatgc	ggtggcatac	ataggctcaa	aataaaggaa	tggagaaaaa	tatttcaagc	120
aaatggaaaa	cagaaaaaag	caggtgttgc	actcctactt	tctgacaaaa	cagactatgc	180
gaataaagat	aaaaaagaga	aggacattac	aaaggtggtc	ctgacctttg	ataaatctca	240
ttgcttgata	ccaacctggg	ctgttttaat	tgcccaaacc	aaaaggataa	tttgctgagg	300
ttgtggagct	tctccctgc	agagagtccc	tgatctccca	aaatttggtt	gagatgtaag	360
gntgattttg	ctgacaactc	cttttctgaa	gttttactca	tttccaa		407

<210> 403

<211> 303

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 403

cagtatttat	agccnaactg	aaaagctagt	agcaggcaag	tctcaaatec	aggcaccaaa	60
tcctaagcaa	gagccatggc	atggtgaaaa	tgcaaaagga	gagtctggcc	aatctacaaa	120
tagagaacaa	gacctactca	gtcatgaaca	aaaaggcaga	caccaacatg	gatctcatgg	180
gggattggat	attgtaatta	tagagcagga	agatgacagt	gatcgtcatt	tggcacaaca	240
tcttaacaac	gaccgaaacc	cattattttac	ataaacctcc	attcggtaac	catgttgaaa	300
gga						303

<210> 404

<211> 225

<212> DNA

<213> Homo sapiens

<400> 404

aagtgttaact	tttaaaaatt	tagtggattt	tgaaaattct	tagaggaaag	taaaggaaaa	60
attgtttaatg	cactcattta	cctttacatg	gtgaaagtcc	tctcttgatc	ctacaaacag	120
acattttcca	ctcgtgtttc	catagtgtgt	aagtgtatca	gatgtgttgg	gcatgtgaat	180
ctccaagtgc	ctgtgttaata	aataaagtat	ctttattttca	ttcat		225

<210> 405

<211> 334

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(334)

<223> n = A,T,C or G

<400> 405

```
gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
ttcaatacac ctcccccat agtgaatcag cttccagggg gtccagtcct tctccttact 120
tcatccccat cccatgccaa aggaagaccc tccctccttg gctcacagcc ttctctaggg 180
ttcccagtg ctcaggaca gagggtgta tgttttcagc tccatccttg ctgtgagtg 240
ctggtgcggg tgtgctcca gcttctgctc agtgcttcat ggacagtgtc cagcccatgt 300
cactctccac tctctcanng tggatccac ccc 334
```

<210> 406

<211> 216

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 406

```
tttcatacct aatgaggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60
gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120
acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
actgccaaag aatnttcaag aaggaggact gccant 216
```

<210> 407

<211> 413

<212> DNA

<213> Homo sapiens

<400> 407

```
gctgacttgc tagtatcatc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60
gtaaattgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120
gtacaacatt gcacccagtg tcagattcta cacctggcca ctcaggaagc aagagttaat 180
cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240
ggaaaattgt catttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300
tgccagacag gagaaagtct tcccatgtta aaagacattt attatcttgt tttcctgtca 360
tgggagttcc agaaaaagtt aaaacagaca atgggccagg ttctgtagta aag 413
```

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(183)

<223> n = A,T,C or G

<400> 408

```
ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttgnnattaa 60
tnccttaacta gttaatcctt aaagggtan ntaatcctta actagtcctt ccattgtgag 120
cattatcctt ccagtattcn ccttctnttt tatttactcc ttctgggcta cccatgtact 180
ntt 183
```

<210> 409

<211> 250

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1) ... (250)
<223> n = A,T,C or G

<400> 409
cccacgcatg ataagctctt tatttctgta agtcctgcta ggaaatcatc aaatctgacg 60
gtggtttggg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180
gcttcccagt gccccagga cagcgtgggc tatgtttaca gcgcntcctt gctggggggg 240
ggcctatgc 250

<210> 410
<211> 306
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1) ... (306)
<223> n = A,T,C or G

<400> 410
ggctggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
agtcttgcaa tcccatttgc aggatccgtc tgtgcacatg cctctgtaga gaggcagcatt 120
cccaggggacc ttggaaacag ttggcactgt aagggtgctt ctcccccaaga cacatcctaa 180
aagggtgttg aatggtgaaa accgcttcct tctttattgc cccttcctat ttatgtgaac 240
nactggttgg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
tcntgc 306

<210> 411
<211> 261
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1) ... (261)
<223> n = A,T,C or G

<400> 411
agagatattn cttaggtnaa agttcataga gtccccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaoccat cagttccagc 240
cttctctcaa ggngaggcaa a 261

<210> 412
<211> 241
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1) ... (241)

<223> n = A,T,C or G

<400> 412

```
gttcaatggt acctgacatt tctacaacac cccactcacc gatgtattcg ttgcccagtg 60
ggaacatacc agcctgaatt tggaaaaaat aattgtgttt cttgcccagg aaatactacg 120
actgactttg atgggtccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
ctgggagatt tcaactgggt cattgaattc ccaaactacc cangcaatta cccagccaac 240
a
```

241

<210> 413

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(231)

<223> n = A,T,C or G

<400> 413

```
aactcttaca atccaagtga ctcactctgtg tgcttgaate ctttccactg tctcatctcc 60
ctcatccaag tttctagtac cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120
aagtttactc tcctcatttg gaacctaaaa actctcttct tcctgggtct gagggctcca 180
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t
```

231

<210> 414

<211> 234

<212> DNA

<213> Homo sapiens

<400> 414

```
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaagctga ttcactatgg ggggagggtg attgaagtcc tcca
```

234

<210> 415

<211> 217

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(217)

<223> n = A,T,C or G

<400> 415

```
gcataggatt aagactgagt atcttttcta cattctttta actttctaag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cacttttctca 120
cacctagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc
```

217

<210> 416

<211> 213

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(213)
 <223> n = A,T,C or G

<400> 416
 atgcataatnt aaagganact gcctcgcttt tagaagacat ctggngctgct ctctgcatga 60
 ggcacagcag taaagctctt tgattccccag aatcaagaac tctccccttc agactattac 120
 cgaatgcaag gtgggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
 atattggaac agatggagtc tctactacaa aag 213

<210> 417
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 417
 nagtccttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60
 gtgggaaagg ctttactctg agttcaaadc ttcaagccca tcagagagtc cacactggag 120
 agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180
 ttcactctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggct 240
 tcantcaaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300
 agt 303

<210> 418
 <211> 328
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 418
 tttttggcgg tgggtgggca gggacgggac angagtctca ctctgttgcc caggctggag 60
 tgcaacaggca tgatctcggc tcaactacaac ccctgcctcc catgtccaag cgattcttgt 120
 gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
 gtatttttag tagagacagg gtttcacat gttggccagg ctggtctcaa actcctnacc 240
 tcagnggtca ggctggcttc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300
 aaagtgctan gattacaggc cgtgagcc 328

<210> 419
 <211> 389
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(389)
 <223> n = A,T,C or G

<400> 419
 cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatattg 60

acccttgagc catggactgg agcctgaaag gcagcgtaca ccttgctcct gatcttgctg 120
cttgtttcct ctctgtggct ccattcatag cacagttggt gactgaggc ttgtgcaggc 180
cgagcaaggc caagctggct caaagagcaa ccagtcaact ctgccacggt gtgccaggca 240
ccggttctcc agccaccaac ctactcgtc cccgcaaagt gcacatcagt tcttctaccc 300
taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatcacg 360
tggcagccac tcnggctgtg tcgacgcgg 389

<210> 420

<211> 408

<212> DNA

<213> Homo sapiens

<400> 420

gttctctcta actcctgcc aaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccatgta cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtccata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgcctat acaaacctgg caagcccg 408

<210> 421

<211> 352

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(352)

<223> n = A,T,C or G

<400> 421

gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca gaacaggtct tttttgggtc cttcttctcc accacnata acttgcatgc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacaggtg tagaaacaag 240
ggtgcaacat gaaatttctg tttcgtagca agtgcattgc tcacaagttg gcangtctgc 300
cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttctc gg 352

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

atgccaccat gctggcaatg cagcgggagg tcgaaggcct gcatatccag cccaagctgg 60
cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtggtcaagg 120
gcgatagcaa ggtgccggcg atcgcgggcg cgtcaatcct ggccaaggtc agccgtgac 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcgggggg cataagggct 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
gcttcttccg ccggtacggc tggcctatga aaattat 337

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(310)
<223> n = A,T,C or G

<400> 423
gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
aggagaatga ggcctggcct gggagccctg tgccactan aagcncatta gattatccat 120
tcaatgacag aacaggtcct ttttgggtcc ttcttctcca ccacgatata cttgcagtcc 180
tccttcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaaacaagg 240
gtgcaacatg aaatttctgt ttcgtagcaa gtgcatgtct cacagttgtc aagtctgccc 300
tccgagttta 310

<210> 424
<211> 370
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(370)
<223> n = A,T,C or G

<400> 424
gctcaaaaat ctttttactg atagggcatg ctacacaatc attgactatt agaggccaga 60
ggagaatgag gcctggcctg ggagccctgt gcctactaga agcacattag attatccatt 120
cactgacaga acaggtcctt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
ccttcttgaa gattcctttg cagttgtctt tgtcataacc cacaggtgta gaaacatcct 240
ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
cacgaagggt gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
tccgtcgacg 370

<210> 425
<211> 216
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(216)
<223> n = A,T,C or G

<400> 425
aattgctatn ntttattttg ccaactcaaaa taattaccaa aaaaaaaaaa tnttaaataga 60
taacaacnca acatcaaggc aananaaca ggaatggntg actntgcata aatnggccga 120
anattatcca ttatnttaag ggttgacttc aggnacagc acacagacaa acatgcccag 180
gaggntntca ggaccgctcg atgntntntg aggagg 216

<210> 426
<211> 596
<212> DNA
<213> Homo sapiens

<400> 426
cttccagtga ggataaccct gttgccccgg gccgagggtc tccattaggc tctgattgat 60
tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaaggc tcgctggcca 120
gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatggtga 180
gctgtccttg tattttgatt aacctaattg ccttcccagc acgactcgga ttcagctgga 240
gacatcacgg caacttttaa tgaaatgatt tgaagggcca ttaagaggca cttcccgtta 300

```

ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
ggtggatggc cttttcagct ttaacccaat ttgcaactgcc ttggaagtgt agccaggaga 480
atacactcat atactcgtgg gcttagaggc cacagcagat gtcattggtc tactgectga 540
gtcccgtctg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct      596

```

<210> 427

<211> 107

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(107)

<223> n = A,T,C or G

<400> 427

```

gaagaattca agttaggttt attcaaaggg cttacngaga atcctanacc caggncccag 60
cccgggagca gccttanaga gtcctgttt gactgcccgg ctcagng      107

```

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(38)

<223> n = A,T,C or G

<400> 428

```

gaacttcna anaangactt tattcactat ttacatt      38

```

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

```

ctttgtcggg cggaataaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60
attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgccg 120
atatccacga actcttgaag gactttctga tttatccaca atcaaatcat cggttttcag 180
tttggatggg ggctcatcac ctgtagaacc tgacttggcc gtggttgga tccactcggt 240
gccttccact tcagttacac ctcaactcacc atcctctcct gttggttctg tgetgcttca 300
agatactaag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360
tgatgtgcag ttaaaaaatc tgccctttta tgatgtcctt gatgttctca tcaagcccac 420
gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480
acctcaaca gttagagaga tatgcatatc cagggatttt ttgccagggt gtaggagaga 540
ttat      544

```

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 430

```
cttatcncaa tggggctccc aaacttggct gtgcagtgga aactccgggg gaattttgaa 60
gaacactgac acccatcttc caccgagaca ctctgattta attgggctgc agtgagaaca 120
gagcatcaat ttaaaaagct gcccgagaatg ttntcctggg cagcgttggtg atctttgccn 180
ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgagggg gttccaggag 240
attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300
caagaaggag gactgcaagt atatcgtggt ggagaagaag gacccaaaaa agacctgttc 360
tgtcagtgaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
cattctcttc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480
ttttgagcaa aaaaaaaaaa aaaaaaa 507
```

<210> 431

<211> 392

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 431

```
gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120
tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180
aagagatggg aaacaaaaatc ccaggagttt tgtgtgtgga gtccctgggtt ttccaacaga 240
catcattcca gcattctgag attagggnga ttggggatca ttctggagtt ggaatgttca 300
acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
gcaatgagtc tggcttttac tctgctgttt ct 392
```

<210> 432

<211> 387

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(387)

<223> n = A,T,C or G

<400> 432

```
ggtatccnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctcggn a gtccagccac tngaaacat gctcccttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tatttttgctt ctgtctgnga 240
attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtag aggaccggga 360
acaacgtata gaacactgga gtccttt 387
```

<210> 433

<211> 281

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(281)

<223> n = A,T,C or G

<400> 433

```

ttcaactagc anagaanact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
atcgccgtgg ctattcctcn ttgntattac accagnagg ntctctgtnt gccactggt 240
tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281

```

<210> 434

<211> 484

<212> DNA

<213> Homo sapiens

<400> 434

```

ttttaaaata agcatttagt gctcagtcct tactgagtag tctttctctc cctcctcttg 60
aatttaattc tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatattg 120
tggtgcaaaa aaaaaaaagt gtctttgttt aaaattactt gggttgtaga tccatcttgc 180
tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaacccat ttcaccaga 300
cagcctgttt ctatcctgtt taataaatta gtttggttgc tctacatgca taacaaaccc 360
tgctccaatc tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 484
ttaa

```

<210> 435

<211> 424

<212> DNA

<213> Homo sapiens

<400> 435

```

gcgcccgtca gagcaggtea ctttctgcct tccacgtcct ccttcaagga agccccatgt 60
gggtagcttt caatatcgca ggttcttaact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaacccc ctccctcgcc gaactcgga ctggcgagag ttcagcgag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcaggtgtc ggggtgacc 240
cttgagagaga ggaaaaaggc cacaagaggg gctgccaccg cactaacgg agatggccct 300
ggtagagacc tttgggggtc tggaacctct ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaaactt gaggattttc tctgttttct actcgcaata aattcagagc 420
aaac

```

<210> 436

<211> 667

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(667)

<223> n = A,T,C or G

<400> 436

```

accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
tcttgcccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataaggggtgc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacagggct 300
gccagggttg tcatagcact catcaaagtc cggtaacgt ctgtgcttcg aatataaacc 360

```

```
tgttcatgtt tataggactc attcaagaat tttctatata tctttcttat atactctcca 420
agttcataat gctgctccat gcccagctgg gtgagttggc caaatccttg tggccatgag 480
gattccttta tggggtcagt gggaaagggt tcaatgggac ttcggtctcc atgccgaaac 540
accaaagtca caaacttcaa ctccttggct agtacacttc ggtctagcca gaaaaaagc 600
agaaacaaga agccaaggct aaggcttgct gcctgcccag gaggaggggt gcagctctca 660
tgttgag 667
```

<210> 437

<211> 693

<212> DNA

<213> Homo sapiens

<400> 437

```
ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gttaggaggc tgataagctt ggaaggaaact tcagacagct ttttcagatc 180
ataaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
aggctactcct ctattttcac cctctctgct tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatgtt tgtacagatc atggactatt ctctgtggac 360
catttctcca ggttacccta ggtgtcacta ttggggggac agccagcatc ttttagcttc 420
atttgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaact gctgttgctc ctgagggtgt gaaagacaga tatagagctt acagtattta 540
tcctatttct aggcactgag ggctgtgggg taccttgttg tgccaaaaca gatcctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
ctgcatcatg tgctctcttg gctgaaaatg acc 693
```

<210> 438

<211> 360

<212> DNA

<213> Homo sapiens

<400> 438

```
ctgcttatca caatgaatgt tctcctgggc agcgttgtga tctttgccac ctctgtgact 60
ttatgcaatg catcatgcta tttcatacct aatgaggag ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaag acaactgcc aagaatcttc aagaaggagg 180
actgcaagta tatctggttg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tgtgcttcta gtaggcacag ggctccagg ccaggcctca ttctcctctg 300
gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360
```

<210> 439

<211> 431

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```
gttctnnta actcctgcc aaaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttct tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaaat ctcattggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgat gagtcttata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag t 431
```


<210> 440
<211> 523
<212> DNA
<213> Homo sapiens

<400> 440
agagataaag cttaggtcaa agttcataga gttcccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360
taaaaattaa aacctctttg tgtcccttgg tcttggaaaca tttatgttcc ttttaaagaa 420
acaaaaatca aactttacag aaagatttga tgtatgtaat acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcacttga tgagaacaag cta 523

<210> 441
<211> 430
<212> DNA
<213> Homo sapiens

<400> 441
gttctctcta actcctgcc aaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcggccgcg 420
aatttagtag 430

<210> 442
<211> 362
<212> DNA
<213> Homo sapiens

<400> 442
ctaaggaatt agtagtggtc ccatcacttg tttggagtgt gctattctaa aagattttga 60
tttcttgtaa tgacaattat attttaactt tgggtgggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaatctt ttattgcact tgttttgacc attaagctat 180
atgttttagaa atggtcattt tacggaaaaa ttagaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc 362

<210> 443
<211> 624
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1) ... (624)
<223> n = A, T, C or G

<400> 443
tttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60

```

ttgaaagaat taaattcaga ggaggggaga gaaagagtag tcagtaggga ctgagcacta 120
aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
tgctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaacttgg cttcctgttt 300
tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaataaac 360
taacgcctac aaaacactta aacatagata acataggtgc aagtactatg tatctggtac 420
atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
agtacagaga gagggcactt aaaccaacta agggcctgga gggaagggtt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggccaaat tatttaaact 600
ttgtccctat ctgctaaaca gatc 624

```

<210> 444

<211> 425

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (425)

<223> n = A,T,C or G

<400> 444

```

gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagcctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
ttcattgcta tagcataaca caaaatttgc ataagtgttg gtcagcaaata ccttgaatgc 180
tgcttaatgt gagagggttg taaaatcctt tgtgcaacac tctaactccc tgaatgtttt 240
gctgtgtctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcattcctgt gaagagccaa 360
ggaggcacca gggcataagt gagtagactt atggtcgcag cggccgcgaa tttagtagta 420
gtaga 425

```

<210> 445

<211> 414

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (414)

<223> n = A,T,C or G

<400> 445

```

catgtttatg nttttggatt actttgggca cctagtgttt ctaaactcgtc tatcattctt 60
ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaaattctt tgcattgtggc agattatttg atgtagtctt ctttaactag catataaatc 180
tggtgtgttt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta tttcctaacc attgatcttt 300
ggatttttat aatcctactc acaaatgact aggtctctcc tcttgtattt tgaagcagtg 360
tggtgtctgg attgataaaa aaaaaaaaag tcgacgcggc cgcaattta gtag 414

```

<210> 446

<211> 631

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (631)

<223> n = A,T,C or G

<400> 446

```
acaaattaga anaaagtgcc agagaacacc acataccttg tccggaacat tacaatggct 60
tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcagggtgtg 120
atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
ccggctcctgt acgatttcag tatgtcttaa tcgcagctgt gattggaaca attcagattg 240
ctgtcatctg tgtgggtggc ctctgcatca caagggccaa actttaggta atagcattgg 300
actgagattt gtaaaccttc caaccttcca ggaaatgccc cagaagcaac agaattcaca 360
gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
taatctaaag ggagcatgtt tcacagtggc tggactaccg agagcttgga ctacacaata 480
cagtattata gacaaaagaa taagacaaga gatctacaca tgttgccctg catttggtgg 540
aatctacacc aatgaaaaca tgtactacag ctatatttga ttatgtatgg atatatttga 600
aatagtatac attgtcttga tgttttttct g                                     631
```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(585)

<223> n = A,T,C or G

<400> 447

```
ccttgggaaa antntcacia tataaagggt cgtagacttt actccaaatt ccaaaaaggt 60
cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taagggtgca 120
gcctcttctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
agttcctgaa aggaggtat agcaactgat cttcagaaag aggaactgtg tgcaccggga 240
tgggctgcca gagtaggata ggattccaga tgctgacacc ttctggggga aacagggctg 300
ccagggtttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttcga atataaacct 360
gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaaagggtg caatgggact tcggtctcca tgccgaaaca 540
ccaaagtcac aaacttcaac tccttggtga gtacacttcg gtcta                                     585
```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(93)

<223> n = A,T,C or G

<400> 448

```
tgctcgtggg tcattctgan nnccgaactg acctgcccag ccctgccgan gggccnccat 60
ggctccctag tgccctggag agganggggc tag                                     93
```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

```
ccaagttcat gctntgtgct ggacgctgga cagggggcaa aagcnnttgc tcgtgggtca 60
ttctgancac cgaactgacc atgccagccc tgccgatggc cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtcctggaag gtggcctctg ngaggagcca 180
cggggacagc atcctgcaga tggtcgggag cgtcccattc gccattcagg ctgcgcaact 240
gttggaagg gcgattcagg cgggcctctt cgtattacg ccagctggcg aaagggggat 300
gtgctgcaag gcgattaagt tgggtaacgc cagggttttc ccagtcncga cgttgtaaaa 360
cgacggccag tgaattgaat ttaggtgacn ctatagaaga gctatgacgt cgcattgcacg 420
cgtacgtaag cttggatcct ctagagcggc cgcctactac tactaaattc gcggcgcgct 480
cgacgtggga tccnactga gagagtggag agtgacatgt gctggacnct gtccatgaag 540
cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600
aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncceca 660
gcatggatga cagagtgaaa ctccatctta aaaaaaaaaa aaaaaa 706
```

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

```
gagacggagt gtcactctgt tgcccaggct ggagtgcagc aagacactgt ctaagaaaaa 60
acagttttta aaggtaaaac aacataaaaa gaaatatcct atagtggaaa taagagagtc 120
aaatgaggct gagaacttta caaagggatc ttacagacat gtcgccaata tctactgcatg 180
agcctaagta taagaacaac ctttggggag aaaccatcat ttgacagtga ggtacaattc 240
caagtcagggt agtgaaatgg gtggaattaa actcaaatta atcctgccag ctgaaacgca 300
agagacactg tcagagagtt aaaaagttag ttctatccat gaggtgattc cacagtcttc 360
tcaagtcaac acatctgtga actcacagac caagttctta aaccactggt caaactctgc 420
tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggg cgacgcggcc 480
gcgaatttag tag 493
```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

```
gggcgcgtcc cattcgccat tcaggctgag caactgttgg gaagggcgat cgggtgcgggc 60
ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaagggcat taagttgggt 120
aacgccaggg ttttcccagt cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180
tgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240
gcggcgcgct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300
tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360
cgcncacagc actcacagct actcaggagg ctgagaacag gttgaacctg ggagggtggag 420
gttgcaatga gctgagatca ggcnctgcn cccagcatg gatgacagag tgaaactcca 480
tcttaaaaaa aaaaaaaaaa a 501
```

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(51)
 <223> n = A,T,C or G

<400> 452
 agacgggtttc accntttacaa cnccttttag gatgggnntt ggggagcaag c 51

<210> 453
 <211> 317
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(317)
 <223> n = A,T,C or G

<400> 453
 tacatcttgc tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa 60
 acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaaccat 120
 ttcacccana cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180
 taacaaaccc tgcctcaatc tgtcacataa aagtctgtga cttgaagttt antcagcacc 240
 cccaccaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataagg 300
 taccatgtc tttatta 317

<210> 454
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 454
 ttcgaggtag aatcaactct cagagtgtag tttccttcta tagatgagtc agcattaata 60
 taagccacgc cagctcttgg aaggagtctt gaattctcct ctgctcactc agtagaacca 120
 agaagaccaa attcttctgc atcccagctt gcaaacaaaa ttgttcttct aggtctccac 180
 ccttcctttt tcagtgttcc aaagctcctc acaatttcat gaacaacagc t 231

<210> 455
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 455
 taccaaagag ggcataataa tcagtctcac agtaggggtc accatcctcc aagtgaaaaa 60
 cattgttccg aatgggcttt ccacaggcta cacacacaaa acaggaaaca tgccaagttt 120
 gtttcaacgc attgatgact tctccaagga tcttcctttg gcatcgacca cattcagggg 180
 caaagaattt ctcatagcac agtcacaat acagggtcctc tttctcctct a 231

<210> 456
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 456
 ttggcaggta cccttacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60
 ttccattcag tattatcggtt attattcttg gagaaaccct gtctgtttac tgtaaccttt 120
 tgcaactcaa ttcctttatc aggaataact acatagccac tatttacaaa gccattggaa 180

ccttttttatt tgggtgcagct gctagtcagtc ccctgactga cattgccaag t 231

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(231)

<223> n = A,T,C or G

<400> 457

cgagggtaccc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcatca 60
gcattcctta atatgatctt gctataatta gatttttctc cattagagtt catacagttt 120
tatttgattt tatttagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180
agttgtctaa atcgatgcct catttctctt gaggtgtcgc tggcttttgt g 231

<210> 458

<211> 231

<212> DNA

<213> Homo sapiens

<400> 458

aggtcttggtt ccccccaett ccactcccct ctactctctc taggactggg ctgggcccaag 60
agaagagggg tgggttaggga agccgttgag acctgaagcc ccaccctcta ccttccttca 120
acaccctaac cttgggtaac agcatttgga attatcattt gggatgagta gaatttccaa 180
ggtcctgggt taggcatttt ggggggccag accccaggag aagaagattc t 231

<210> 459

<211> 231

<212> DNA

<213> Homo sapiens

<400> 459

ggtaccgagg ctcgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60
ccttcgcgaa acctgtggtg gccaccagtc cctaacggga caggacagag agacagagca 120
gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460

<211> 231

<212> DNA

<213> Homo sapiens

<400> 460

gcaggtataa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60
cctatcaccc tattcttggg ggctgtctct tcacagtgat catgaagcct agcagcaaatt 120
cccacctccc cacacgcaca cggccagcct ggagcccaaca gaagggtcct cctgcagcca 180
gtggagcttg gtccagcctc cagtccaccc ctaccaggct taaggataga a 231

<210> 461

<211> 231

<212> DNA

<213> Homo sapiens

<400> 461

cgagggttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggaggggc 60

gcgtgtgctc cagaagagtg tgtgcatgcc agaggggaaa caggcgcttg tgtgtcctgg 120
 gtgggggttca gtgaggagtg ggaaattggt tcagcagaac caagccgttg ggtgaataag 180
 aggggggattc catggcactg atagagccct atagtttcag agctgggaat t 231

<210> 462

<211> 231

<212> DNA

<213> Homo sapiens

<400> 462

aggtagcctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
 gggtagtgca agtataaaaa ttaaaaaaaaa aagacttcat gccaatctc atatgatgtg 120
 gaagaactgt tagagagacc aacagggttag tgggttagag atttccagag tcttacattt 180
 tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

tactccagcc tgggtgacaga gcgagaccct atcacgcgcc cccacccccc caaaaaaaaa 60
 actgagtaga cagggtgtcct cttggcatgg taagtcttaa gtccctctcc agatctgtga 120
 catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaaaggcag 180
 tggggagggtg gatcttccag tcgaagcggc atagaagccc gtgtgaaaag c 231

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

gtactctaag attttatcta agttgccttt tctgggtggg aaagtttaac cttagtgtact 60
 aaggacatca catatgaaga atgtttaagt tggagggtgc aacgtgaatt gcaaacaggg 120
 cctgtctcag tgactgtgtg cctgtagtcc cagctactcg ggagtctgtg tgaggccagg 180
 ggtgccagcg caccagctag atgctctgta acttctaggc cccattttcc c 231

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

catgttggtg tagctgtggt aatgctggct gcacttcaga cagggttaac ttcagctcct 60
 gtggcaaatt agcaacaaat tctgacatca tatttatggt ttctgtatct ttgttgatga 120
 aggatggcac aatttttgcg tgtgttcata atatactcag attagttcag ctccatcaga 180
 taaactggag acatgcagga cattagggta gtgttgtagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

caggtagctc ttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
 ggcttcgaa cagaacttgc cacataccca ggtataatag tttctaact ttgccaggga 120
 cctgtgcaat caaatattgt ggagaattcc ctagtggag aagtcacaaa gactataggc 180
 aataatggag accagtcacca caagatgaca accagtcggt gtgtgcggct g 231

<210> 467
 <211> 311
 <212> DNA
 <213> Homo sapiens

<400> 467
 gtacaccctg gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg 60
 tgggtggcttt tctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac 120
 tgtgccttaa cagaaggctct tgagattcta agtgggaatc atttcagtga ctgtcatgtg 180
 gcatgggtct ctgcccaage tcgtaatgag actatagcaa ggcggctgtg ggacgtcagt 240
 tgtgacctgc tgggcctccc aatagactaa caggcagtg cagttggacc caagagaaga 300
 ctgcagcaga c 311

<210> 468
 <211> 3112
 <212> DNA
 <213> Homo sapiens

<400> 468
 cattgtgttg ggagaaaaac agaggggaga tttgtgtggc tgcagccgag ggagaccagg 60
 aagatctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattaaaggc 120
 tgggaaggcac tggatgcctg atgatgaagt ggactttcaa actggggcac tactgaaacg 180
 atgggatggc cagagacaca ggagatgagt tggagcaagc tcaataacaa agtgggttcaa 240
 cgaggacttg gaattgcatg gagctggagc tgaagtttag cccaattgtt tactagttaga 300
 gtgaatgtgg atgattggat gatcatttct catctctgag cctcaggttc cccatccata 360
 aaatgggata cacagtatga tctataaagt gggatatagt atgatctact tcactggggtt 420
 atttgaagga tgaattgaga taatttattt cagggtgccta gaacaatgcc cagattagta 480
 catttgggtg aactgagaaa tggcataaca ccaaatttaa tatatgtcag atgttactat 540
 gattatcatt caatctcata gttttgtcat ggcccaattt atcctcactt gtgcctcaac 600
 aaattgaact gttaacaaaag gaatctctgg tcttgggttaa tggctgagca ccactgagca 660
 tttccattcc agttggcttc ttgggtttgc tagctgcac actagtcac ttaaataaat 720
 gaagttttta catttctcca gtgatttttt tatctcacct ttgaagatac tatgttatgt 780
 gattaaataa agaacttgag agaacagggt ttcattaaac ataaaatcaa tgtagacgca 840
 aattttctgg atgggcaata cttatgttca caggaaatgc tttaaaatat gcagaagata 900
 attaaatggc aatggacaaa gtgaaaaact tagacttttt tttttttttt ggaagtatct 960
 ggatgttctt tagtcactta aaggagaact gaaaaatagc agtgagttcc acataatcca 1020
 acctgtgaga ttaaggctct ttgtggggaa ggacaaagat ctgtaaattt acagtttctt 1080
 tccaaagcca acgtcgaatt ttgaaacata tcaaagctct tcttcaagac aaataatcta 1140
 tagtacatct ttcttatggg atgcacttat gaaaaatggg ggctgtcaac atctagtcac 1200
 ttttagctctc aaaatgggtc atttttaagag aaagtttttag aatctcatat ttattcctgt 1260
 ggaaggacag cattgtggct tggactttat aaggctttta ttcaactaaa taggtgagaa 1320
 ataagaaagg ctgctgactt taccatctga ggccacacat ctgctgaaat ggagataatt 1380
 aacatcacta gaaacagcaa gatgacaata taatgtctaa gtagtgacat gttttttgcac 1440
 atttccagcc cctttaaata tccacacaca caggaagcac aaaaggaagc acagagatcc 1500
 ctggggagaaa tgcccgcccg ccatcttggg tcatcgatga gcctcgccct gtgcctgggtc 1560
 ccgcttgtga gggaaggaca ttagaaaatg aattgatgtg ttccttaaag gatgggcagg 1620
 aaaacagatc ctgttgtgga tatttatttg aacgggatta cagatttgaa atgaagtcac 1680
 aaagtgagca ttaccaatga gaggaaaaca gacgagaaaa tcttgatggc ttcacaagac 1740
 atgcaacaaa caaatggaa tactgtgatg acatgaggca gccaaagctgg ggaggagata 1800
 accacggggc agagggctcag gattctggcc ctgctgccta aactgtgcgt tcataaccaa 1860
 atcattttcat atttctaacc ctcaaaaaca agctgttgta atatctgac tctacgggtt 1920
 cttctgggccc caacattctc catatatcca gccacacta tttttaatat ttagtcccca 1980
 gatctgtact gtgaccttct taccactgtag aataacatta ctcaatttgt tcaaagacct 2040
 ttcgtgttgc tgccataatg gtagctgact gtttttcccta aggagtgttc tggcccagg 2100
 gatctgtgaa caggctggga agcatctcaa gatctttcca gggttatact tactagcaca 2160
 cagcatgatc attacggagt gaattatcta atcaacatca tctcagtggt ctttgcccat 2220
 actgaaattc atttcccact tttgtgcccc ttctcaagac ctcaaaatgt cattccatta 2280

atatcacagg attaactttt ttttttaacc tggagaatt caatgttaca tgcagctatg 2340
ggaatttaac tacatatattt gttttccagt gcaaagatga ctaagtcctt tatccctccc 2400
ctttgtttga ttttttttcc agtataaagt taaaatgctt agccttgtag tgaggctgta 2460
tacagccaca gcctctcccc atccctccag ccttatctgt catcaccatc aaccctccc 2520
atgcacctaa acaaaatcta acttgtaatt ccttgaacat gtcaggcata cattattcct 2580
tctgcctgag aagctcttcc ttgtctctta aatctagaat gatgtaaagt tttgaataag 2640
ttgactatct tacttcatgc aaagaaggga cacatatgag attcatcatc acatgagaca 2700
gcaaatacta aaagtgtaat ttgattataa gagtttagat aaatatatga aatgcaagag 2760
ccacagaggg aatgtttatg gggcacgttt gtaagcctgg gatgtgaagc aaaggcaggg 2820
aacctcatag tatcttatat aatatacttc atttctctat ctctatcaca atatccaaca 2880
agcttttcac agaattcatg cagtgcacaa ccccaaagggt aacctttatc catttcatgg 2940
tgagtgcgct ttagaatttt ggcaaatcat actggctact tatctcaact ttgagatgtg 3000
tttgtccttg tagttaattg aaagaaatag ggcactcttg tgagccactt taggggtcac 3060
tcctggcaat aaagaattta caaagagcaa aaaaaaaaaa aaaaaaaaaa aa 3112

<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

agctctttgt aaattcttta ttgccaggag tgaacctaa agtgggtcac aagagtgcc 60
tatttctttc aattaactac aaggacaaac acatctcaaa gttgagataa gtgaccagta 120
tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaaggta cctttgggga 180
tttgactgac atgaattctg tgaaaagctt gttggatatt gtgatagaga tagagaaatg 240
aagtatatta tataagatac tatgagggtc cctgcctttg cttcacatcc caggcttaca 300
aacgtgcccc ataaacattc cctctgtggc tcttgcatct catatattta tctaaactct 360
tataatcaaa tacactttta gtatttgctg tctcatgtga tgatgaatct catatgtgtc 420
ccttctttgc atgaagtaag atagtcaact tattcaaaac tttacatcat tctagattta 480
agagacaagg aagagcttct caggcagaag gaataatgta tgcctgacat gttcaaggaa 540
ttacaagtta gattttgttt aggtgcatgg gaggggttga tgggtgatgac agataaggct 600
ggagggatgg ggagaggctg tggctgtata cagcctcagt acaaggctaa gcattttaac 660
tttatactgg aaaaaaaatc aaacaaaggg gagggataaa ggacttagtc atctttgcac 720
tggaanaaaa aatatgtaat taaattccca tagctgcatg taacattgaa ttcttccagg 780
ttaaaaaaaa agttaatcct gtgatattaa tggaaatgaca ttttgagggtc ttgagaatgg 840
gcacaaaagt gggaaatgaa tttcagtagt ggcaaagaca ctgaggatga tgttgattag 900
ataattcact ccgtaatgat catgctgtgt gctagtaagt ataaccctgg aaagatcttg 960
agatgcttcc cagcctgttc acagatcccc tcttgaaca aaatgagtaa tgttattcta 1080
cagctacata ttaggcagca acacgaaggg gaactaaata ttaaaaatga gtgtggctgg 1140
cagtgtagaa aggtcacagt acagatctgg gaactaaata ttaaaaatga gtgtggctgg 1140
atatatggag aatgttgggc ccagaaggaa ccgtagagat cagatattac aacagctttg 1200
ttttgagggt tagaaatatg aaatgatttg gttatgaacg cacagtttag gcagcagggc 1260
cagaatcctg accctctgcc ccgtgggttat ctctcccca gcttggctgc ctcatgtcat 1320
cacagtattc cattttgttt gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt 1380
tttctctca ttggtaatgc tcaactttgt acttcatttc aaatctgtaa tcccgttcaa 1440
ataaatatcc acaacaggat ctgttttctt gccatcctt taaggaaacac atcaattcat 1500
tttctaattg ccttccctca caagcgggac caggcacagg gcgaggctca tcgatgacc 1560
aagatggcgg ccgggcattt ctcccaggga tctctgtgct tctttttgtg cttcctgtgt 1620
gtgtggatat ttaaaggggc tggaaatgtg caaaaacatg tcaactacta gacattatat 1680
tgtcatcttg ctgtttctag tgatgttaat tatctccatt tcagcagatg tgtggcctca 1740
gatggtaaag tcagcagcct ttcttatttc tcacctggaa atacatacga ccatttgagg 1800
agacaaatgg caaggtgtca gcataccctc aacttgagtt gagagctaca cacaatatta 1860
ttggtttccg agcatcaca acacctctc tgtttcttca ctgggcacag aattttaata 1920
cttatttcag tgggctgttg gcaggaacaa atgaagcaat ctacataaag tcactagtgc 1980
agtgcctgac acacaccatt ctcttgaggt cccctctaga gatccacag gtcatatgac 2040
ttcttgggga gcagtggctc acacctgtaa tcccagcact ttgggaggct gaggcaggtg 2100
ggtcacctga ggtcaggagt tcaagaccag cctggccaat atgggtgaaac cccatctcta 2160
ctaaaaatc aaaaatttag tgggcgtgct ggtgcatgcc tgtaatccca gccccaacac 2220

aatggaatt

2229

<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

```

gtaaattctt tattgccagg agtgaaccct aaagtggctc acaagagtgc cctattttctt 60
tcaattaact acaaggacaa acacatctca aagttgagat aagtgaccag tatgatttgc 120
caaaattcta aagcgcactc accatgaaat ggataaagggt tacctttggg gatttgcact 180
gcatgaattc tgtgaaaagc ttgttgata ttgtgataga gatagagaaa tgaagtatat 240
tatataagat actatgaggt tccctgcctt tgcttcacat cccaggctta caaacgtgcc 300
ccataaacat tccctctgtg gctcttgcct ttcatatatt tatctaaact cttataatca 360
aattacactt ttagtatctg ctgtctcatg tgatgatgaa tctcatatgt gtcccttctt 420
tgcatgaagt aagatagtc aacttattcaa aactttacat cattctagat ttaagagaca 480
aggaagagct tctcaggcag aaggaataat gtatgcctga catgttcaag gaattacaag 540
ttagattttg tttaggtgca tgggaggggt tgatggtgat gacagataag gctggaggga 600
tggggagagg ctgtggctgt atacagcctc agtacaaggc taagcatttt aactttatac 660
tggaaaaaaa atcaaacaaa ggggagggat aaaggactta gtcattcttg cactggaaaa 720
caaaatatgt aattaaattc ccatagctgc atgtaacatt gaattcttcc aggttaaaaa 780
aaaaagttaa tctgtgata ttaatggaat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaaa gacactgagg atgatgttga ttagataaatt 900
cactccgtaa tgatcatgct gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960
tcccagcct gttcacagat cccctgggcc agaactcctc ttaggaaaaa cagtcagcta 1020
catattaggc agcaacacga agggctcttg aacaaaatga gtaatgttat tctacagtgt 1080
agaaagggtc cagtacagat ctgggaacta aatattaaaa atgagtgtgg ctggatata 1140
ggagaatgtt gggccagaa ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttagaaa tatgaaatga tttggttatg aacgcacagt ttaggcagca gggccagaat 1260
cctgaccctc tgcccgtgg ttatctctc cccagcttgg ctgctcatg tcatcacagt 1320
attccatttt gtttgttga tgtcttgtga agccatcaag attttctcgt ctgttttctt 1380
ctccaggtta atgtcactt tgtgacttca tttcaaactc gtaatcccgt tcaaataaat 1440
atccacaaca ggatctgttt tctgcccatt cctttaagga acacatcaat tcattttcta 1500
atgtccttcc ctcacaagcg ggaccaggca cagggcgagg ctcatcgatg acccaagatg 1560
gogggcgggc atttctccca gggatctctg tgcttccttt tgtgcttctt gtgtgtgtgg 1620
atatttaaag gggctggaat tgtgcaaaaa catgtcacta cttagacatt atattgtcat 1680
cttgctgttt ctagtgtgt taattatctc catttcagca gatgtgtggc ctcagatggg 1740
aaagtcagca gcctttctta tttctcacct ggaaatacat acgaccattt gaggagacaa 1800
atggcaagggt gtcagcatac cctgaacttg ttctgagagc tacacacaat attattgggt 1860
tccgagcatc acaaacaccc tctctgtttc tttcactggg acagaatttt aatacttatt 1920
tcagtgggct gttggcagga acaaatgaag caatctacat aaagtcacta gtgcagtgcc 1980
tgacacacac cattctcttg aggtccctc tagagatccc acaggtcata tgacttcttg 2040
gggagcagtg gctcacacct gtaatcccag cacttttgga ggctgaggca ggtgggtcac 2100
ctgagggtcag gagttcaaga ccagcctggc caatatggtg aaaccccatc tctactaaaa 2160
atacaaaaat tagctgggcg tgctggtgca tgctgtaat cccagctact tgggaggctg 2220
aggcaggaga attgctggaa catgggaggc ggaggttgca gtgagctgta attgtgccat 2280
tgcactcgaa cctgggcgac agagtggaa tctgtttcca aaaaacaaac aaacaaaaaa 2340
ggcatagtc gatacaacgt ggggtgggat tgtaaataga agcaggatat aaagggcatg 2400
gggtgacggt tttgccaac acaatg 2426

```

<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

```

gaacaaaatg agtaatgtta ttctacagt tagaaaggct acagtacaga tctgggaact 60
aaatattaaa aatgagtgtg gctggatata tggagaatgt tgggcccaga aggaaccgta 120

```

```

gagatcagat attacaacag ctttgttttg agggtttagaa atatgaaatg atttggttat 180
gaacgcacag tttaggcagc agggccagaa tcttgaccct ctgccccgtg gttatctcct 240
ccccagcttg gctgcctcat gtcacacag tattccattt tgtttgttgc atgtcttgtg 300
aagccatcaa gattttctcg tctgttttcc tctcattggg aatgctcact ttgtgacttc 360
atttcaaate tgtaatcccc ttcaaataaa tatccacaac aggatctgtt ttcctgcca 420
tcctttaagg aacacatcaa ttcattttct aatgtccttc cctcacaagc gggaccaggc 480
acagggcgag gctcatcgat gaccaagat ggcgccggg catttctccc agggatctct 540
gtgcttcctt ttgtgcttcc tgtgtgtgtg gatatttaaa ggggctggaa atgtgcaaaa 600
acatgtcact acttagacat tatattgtca tcttgctgtt tctagtgtg ttaattatct 660
ccatttcagc agatgtgtgg cctcagatgg taaagtcagc agcctttctt atttctcacc 720
tctgtatcat caggctcttc ccaccatgca gatcttctg gtctccctcg gctgcagcca 780
cacaaatctc cctctgtttt ttctgatgcc ag
812

```

<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(515)

<223> n = A,T,C or G

<400> 472

```

acggagactt attttctgat attgtctgca tatgtatgtt ttttaagagtc tggaaatagt 60
cttatgactt tcctatcatg cttattaata aataatacag cccagagaag atgaaaatgg 120
gttccagaat tattggtcct tgcagcccg tgaatctcag caagaggaac caccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aagaacgtaa 240
agtagaagg gattgccagg aaatggatct ggaaaagact cggagtggagc gtggagatgg 300
ctctgatgta aaagagaaga ctccaccta tcctaagcat gctaagacta aagaagcagg 360
agatgggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420
cattgaaaat gtgactgaaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
gaaaaaaaaa naaaaaaaaa aaanaaaan aaaaa
515

```

<210> 473

<211> 5829

<212> DNA

<213> Homo sapiens

<400> 473

```

cgcattgccg ggaagcccaa gctggctcga agagccacca gccacctgtg caaggggtggg 60
cctggaccag ttggaccagc caccaagctc acctactcaa ggaagcaggg atggccagg 120
tgcaacagcc tgagtggctg ccacctgata gctgatggag cagaggcctg aggaaaaatca 180
gatggcacat ttagctcttt aatggatctt aagttaattt ttctataaag cacatggcac 240
cagtccatgc ctcagagctc gtatggcact gcggaaccaca gcaggccgag ttcccaggat 300
tgccatccag gggggccttc tgtagccctg gccagacctt gcagaggtgg ctgggtgctc 360
tttgagcgag ctggcctcc ctggcatgca caggccccag gtactgacac gctgctctga 420
gtgagcttgt cctgccttgg ctgccaccta actgctgatg gagcagcggc cttaggaaaa 480
gcaaatggcg ctgtagccca actttagggt agaagaagat gtaccatgtc cggccgctag 540
ttggtgactg gtgcacctgc tcctggcgta cccttgca gaaggggtgg tgccttttgg 600
ccagcttggc cttgcctggc atgcacaagc ctcagtgc aaactgtcct acaaatggag 660
acacagagag gaaacaagca gcgggctcag gagcaggggt tgtgctgcct ttggggctcc 720
agtccatgcc tcgggtcgta tggactgca ggcttcttgg ttgccaagag gcggaccaca 780
ggccttcttg aggaggactt tacgttcaag tgcagaaagc agccaaaatt accatccatg 840
agactaagcc ttctgtggcc ctggcgagac ttaaaatttg tgccaaggca ggacaagctc 900
actcggagca gcgtgtcagt agctggggcc tatgcatgcc gggcagggcc gggctggctg 960
aaggagcaac cagccacctc tgcaagggtg cgcctagtgc aggcggagca tccaccacct 1020
caccgcctcg aggaagtggg gatggccagg ttccacagc ctgagtgtct gccaccttat 1080

```

tgctgatgga	gcagaggcct	taagaaaagc	agatggcact	gtggccctac	ctttaggggtg	1140
gaagaagtga	tgtacatgtc	cggacgctaa	ttgggtgactg	gtacaccggc	tcctgctaca	1200
cctttgcaga	ggtggctggg	tgctccttga	gccagcttgt	ccttgcccgg	catgcacaag	1260
tttcagtgc	acaactttgc	cacaaatgga	gccatataga	ggaaacaaga	agcagggttca	1320
ggagaagggg	gtaccctgcc	tttgggggtc	cagtcctatgc	ctcagggtgc	acatggcact	1380
gcgggcttct	tggttgccag	gaggcggaac	acaggccatc	ttggggagga	ctttgtgttc	1440
aagtgcagaa	agcagccagg	attgccatcc	agggggaccc	tctatagccc	tggccaaacc	1500
ttgcaggggt	gtctgggtgc	tctttgagcc	ggccttggcct	ccctggcatg	cacgggcccc	1560
agggtgctgg	acgctgctcc	gagtggtgctt	gtcctgcctt	ggctgccacc	tctgcggggg	1620
tgcgtctgga	gggggtggac	cggccaccaa	ccttaccag	tcaaggaagt	ggatggccat	1680
gttcccacag	cctgagtggc	tgccacctga	tggctgatgg	agcaaaggcc	ttaggaaaag	1740
cagatggccc	ttggccctac	ctttttgtta	gaagaactga	tgttccatgt	cctgcagcga	1800
gtgaggttgg	tggtgtgtgc	cccagctcct	ggcgcgcctt	cgagagggtg	actggttgct	1860
ctttgggccc	tcttggcctt	gcccagcatg	cacaagcctc	agtgtacta	ctgtgtctaca	1920
aatggagcca	tataggggaa	acgagcagcc	atctcaggag	caagggtgat	gctgcctttg	1980
ggggctccag	tccttgcttc	aagggtctta	tgtcactgtg	ggcttcttgg	ttgtcaagag	2040
gcagaccata	ggcctgtctg	agagggactt	tatgttcaag	tgcagaaagc	agccaggatt	2100
gccaccctcg	ggactctgcc	ttctgtggcc	ctggccaaac	ttagaatttg	gccgtagaca	2160
ggacaggctc	acttggagta	gcgtgtccgt	agctgggggtc	tgtgcatgcc	gggcaaggcc	2220
gggctggctc	ggggagcaac	cagccaccctc	tgccgggggtg	cgccctggagc	aggtggagca	2280
gccaccagct	caccctactcc	aggaagcccg	ggtagccagg	ttcccaaggc	ctgagtgggt	2340
gccacctaat	ggctgaagaa	acagaggcct	tgggaaaacc	agatggcact	gtggccctac	2400
ctttatggta	gaagagctga	tttagcctga	ctggcagcgt	gtgggggttg	tggctgggtc	2460
gcctgtgctg	ggcgcacccg	tgcaaggatg	gctgggtgcc	ctttgagcca	gcttgcctct	2520
gcccggcatg	cgcaagcctc	agtgcacaaa	ctgtgtctgca	aatggggcca	tatagaggaa	2580
aggagcagct	ggctctggag	catggtgtgc	actccctttg	ggccttcagt	ccatgtctca	2640
tgggtcgtat	gacactgcgg	gcttgttggg	tgccaagagg	cagaccacag	gtcatcttga	2700
ggaggacttt	atgttccagt	ccagaaagca	gccagtggta	ccaccagggg	gacttgtgct	2760
tctgtgceca	ggccagacgt	agaatttgac	aaagtccagga	cggtctcagt	cagagcggcg	2820
tgtcgggtccc	cggggcctgt	gcatgccggg	cagggccggg	ctggcttggg	gagcaagcag	2880
ccactctggt	taagggtgtg	cctggagcag	gtggagcagc	caccaacctc	acgcactgaa	2940
agaagcaggg	atggccagggt	tccaacatcc	tgagtggctg	ccacctgatg	gctgatggag	3000
cagaggcctg	aggaaaagca	gatggcactg	ctttgtagtg	ctgttctttg	tctctcttga	3060
tctttttcag	ttaatgtctg	ttttatcaga	gactaggatt	gcaaaccctg	ctcttttttg	3120
ctttccattt	gcttggtaaa	tattcctcca	tccctttatt	ttaagcctat	gtgtgtcttt	3180
gcacatgaga	tgggtctcct	gaatacagga	caacaatggg	tctttactct	ttatccaact	3240
tgccagtctg	tgtcttttaa	ctggggcatt	tagccctttt	acatttaagt	ttagtattgt	3300
tacatgtgaa	atttatcctg	tcatgatgtt	gctagctttt	tatttttccc	attagtttgc	3360
agtttcttta	tagtgtcaat	ggtctttaca	attcgatatg	ttttttagtg	ggctgggtact	3420
ggtttttctt	ttctacgttt	agtgtctcct	tcaggagctc	ttgtaacaca	agaatgtgga	3480
tttattttctt	gtaaggtaaa	tatgtggatt	tatttcttgg	gactgtatct	tatggccttt	3540
accccaagaa	tcattacttt	ttaaaatgca	attcaaatta	gcataaaaaca	tttacagcct	3600
atggaaaggc	ttgtggcatt	agaatcctta	tttataggat	tatttttgtgt	ttttttgaga	3660
tatggctctt	gtcatcgagg	cagaagtgcc	gtgggttgat	cataattcac	cacagccctg	3720
aactcttgag	tccaagccat	ccttttgctt	taatctccca	accagttgga	tctgcaggca	3780
taaggcatca	tgcgtggcta	attttttcac	gttttttttt	tttttttgct	gagattatgg	3840
tgtcactgtg	ttgctctggc	tgatctcaaa	tgtttgacct	caagggatct	ttctgccacg	3900
gcctcctaaa	gtgctaggat	tatatgcatg	atacaccatg	cctattgtag	agtattacat	3960
tattttcaaa	gtcttattgt	aagagccatt	tattgccttt	ggcctaaata	actcaatata	4020
atatctctga	aacttttttt	tgacaaattt	tggggcgtga	tgatgagaga	aggggggtttg	4080
aaactttcta	ataagagtta	acttagagcc	atttaagaaa	ggaaaaaaca	caaattatca	4140
gaaaaacaac	agtaagatca	agtgcaaaag	ttctgtggca	aagatgatga	gagtaaagaa	4200
tatatgtttg	tgactcatgg	tggcttttac	tttgttcttg	aatttctgag	tacgggttaa	4260
catttaaaga	atctacatta	tagataacat	tttattgcaa	gtaaatgtat	ttcaaaattt	4320
gttattgggt	ttgtatgaga	ttattctcag	cctacttcat	tatcaagcta	tattatttta	4380
ttaatgtagt	tcgatgatct	tacagcaaag	ctgaaagctg	tatcttcaaa	atatgtctat	4440
ttgactaaaa	agttattcaa	caggagttat	tatctataaa	aaaaatacaa	caggaatata	4500
aaaaacttga	ggataaaaaag	atgttggaaa	aagtaatat	aaatcttaaa	aaacatatgg	4560

```

aaactacaca atggtgaaga cacattggtg aagtacaaaa atataaattg gatctagaag 4620
aaagggcaat gcaggcaata gaaaaattag tagaaatccc tttaaagggtt agtttgtaa 4680
atcaggtaag tttatttata atttgcttct atttatttca ctgcaaatta tattttggat 4740
atgtatatat attgtgcttc ctctgctgt cttacagcaa tttgccttgc agagtcttag 4800
gaaaaagggtg gcatgtgttt ttactttcaa aatattttaa tttccatcat tataacaaaa 4860
tcaatttttc agagtaatga ttctcactgt ggagtcattt gattattaag acccgttggc 4920
ataagattac atcctctgac tataaaaaatc ctggaagaaa acctaggaaa tattcgtctg 4980
gacattgcac ttggcaatga atttatgggt aacctctgat ccacttccag tcactatcca 5040
tgagttttta tttccagata catgaaatca tatgagttga aactttcttt tgattgagca 5100
gtttggaac cgtctttttg tagaatctgc aagtggatat ttggaacctt ttgaggcta 5160
tgctgaaaaa agaaatatct tcactacatg atgaccacca gcagcagctg gggaaaccag 5220
caccctgtgg aattccatac ggtgcataga atacatcttc ccttcagtcg gcttgggtca 5280
acttaggtca tgggccacct ggctgatagc agtttccaca gaaatgcttc aagatgaaag 5340
tggatgaccg ggccaccctc caccactgcc ctgtaagacc atgggacaca caggccacca 5400
gttcttttca tgtggtcatc ccctgttaga tgggagaaaa tacacctgcc tcatTTTTgt 5460
accttctgtg tgaacattcc acggcagact gtcgctaaat gtggatgaag aattgaatga 5520
atgaatgaat atgagagaaa atgaataaat gttctagatc ctgggctgga aggctgtgta 5580
tgaggatggg gggctgtgtt ttcttgcctt taagtacta attgtcactt 5640
tggggcagga gcacaggctt tgaatgcaga ccgactggac tttaattctg gctttactag 5700
ttgtgattgt gtgaccttgt gaaagttact taaacctctt gtgctgttt ctttatctgt 5760
aaaatggaga taataagatg tcaaaggact gtggtaaaga ttaaatgctt taaaaaaaaa 5820
aaaaaaaaa 5829

```

<210> 474

<211> 1594

<212> DNA

<213> Homo sapiens

<400> 474

```

atztatggat cattaatgcc tcttttagtag tttagagaaa acgtcaaaag aaatggcccc 60
agaataagct tcttgatttg taaaattcta tgtcattggc tcaaatttgt atagtatctc 120
aaaatataaa tatatagaca tctcagataa tatatttgaa atagcaaatt cctgtagtaa 180
aataatagta ctttaactaga tgagaataac aggtcgccat tatttgaatt gtctcctatt 240
cgtttttcat ttgttgtgtt actcatgttt tacttatgag ggatatatat aacttccact 300
gttttcagaa ttattgtatg cagtcagtat gagaatgcaa tttaagtttc cttgatgctt 360
tttcacactt ctattactag aaataagaat acagtaatat tggcaaagaa aattgaccag 420
ttcaataaaa ttttttagta aatctgattg aaaataaaca ttgcttatgg ctttcttaca 480
tcaatattgt tatgtcctag acaccttatc tgaaattacg gcttcaaaat tctaattatg 540
tgcaaatgtg taaaatatca atactttatg ttcaagctgg ggcctcttca ggcgtcctgg 600
gctgagagag aaagatgcta gctccgcaag ccggagaggg aacaccgcca cattgttaca 660
cggacacacc gccacgtgga cacatgacca gactcacatg tacagacaca cggagacatt 720
accacatgga gacaccgtca cacagtcaca cggacacact ggcatagtca catggacgga 780
cacacagaca tatggagaaa tcacatggac acaccaccac actatcacag ggacacagac 840
acacggagac atcaccacat ggacacactg tcacactacc acagggacac gagacatcac 900
actgtcacat ggacacacca tcacacacat gaacacaccg acacactgcc atatggacac 960
tggcacacac actgccacac tgtcacatgg acacacctcc acaccatcac accaccacac 1020
acactgcctg tggacacaag gacacacaga cactgtcaca cagatacaca aaacactgtc 1080
acacggagac atcaccatgc agatacacca ccactctgggt gccgtctgaa ttaccctgct 1140
gggggggacag cagtggcata ctcactgcta agtgactggc tttcacccca gtagtgattg 1200
ccctccatca acactgccca cccaggttg gggctacccc agcccatctt tacaacacag 1260
ggcaagggtga actaatggag tgggtggagg agttggaaga aatcccagcg tcagtcaccg 1320
ggatagaatt cccaagggaac cctctttttg gaggatgggt tccatttctg gaggcgatct 1380
gccgacaggg tgaatgcctt cttgcttgct ttctggggaa tcagagagag tccgttttgt 1440
ggtgggaaga gtgtggctgt gtactttgaa ctctgtaaa ttctctgact catgtccaca 1500
aaaccaacag ttttgtgaat gtgtctggag gcaagggaag ggccactcag gatctatgtt 1560
gaagggaaga ggcctggggc tggagtattc gctt 1594

```

<210> 475

<211> 2414
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> (33)
<223> n=A,T,C or G

<400> 475
cccaacacaa tggctttata agaatgcttc acntgtgaaa aacaaatata aaagtcttct 60
tgtagattat ttttaaggac aaatctttat tccatgttta atttatttag ctttccctgt 120
agctaataatt tcatgctgaa cacattttta atgctgtaaa tgtagataat gtaatttatg 180
tatcattaat gcctcttttag tagtttagag aaaacgtcaa aagaaatggc cccagaataa 240
gcttcttgat ttgtaaaatt ctatgtcatt ggctcaaatt tgtatagtat ctcaaaatat 300
aaatatatag acatctcaga taatatattt gaaatagcaa attcctgtta gaaaataata 360
gtacttaact agatgagaat aacaggctgc cattatttga attgtctcct attcgttttt 420
catttgttgt gttactcatg ttttacttat ggggggatat atataacttc cgctgttttc 480
agaagtattg tatgcagtca gtatgagaat gcaatttaag tttccttgat gctttttcac 540
acttctatta ctagaaataa gaatacagta atattggcaa agaaaattga ccagttcaat 600
aaaatttttt agtaaatctg attgaaaata aacattgctt atggctttct tacatcaata 660
ttgttatgtc ctagacacct tatctgaaat tacggcttca aaattctaata tatgtgcaaa 720
tgtgtaaaat atcaatactt tatgttcaag ctggggcctc ttcaggcgct ctgggctgag 780
agagaagat gctagctccg caagccgggg agggaacacc gccacattgt tacatggaca 840
caccgccacg tggacacatg accagactca catgtacaga cacacggaga cattaccaca 900
tggagacacc gtcacacagt cacacgagca cactggcata gtcacatgga cggacacaca 960
gacatatgga gaaatcacac tgacacacca ccacactatc acagggacac agacacacgg 1020
agacatcacc acatggacac actgtcacac taccacaggg acacgagaca tcacactgtc 1080
acatggacac accatcacac acatgaacac accgacacac tgccatatgg aactgccac 1140
acacactgcc aactgtcac atggacacac ctccatacca tcacaccacc acacacactg 1200
ccatgtggag acaaggacac acagacactg tcacacagat acacaaaaca ctgtcacacg 1260
gagacatcac catgcagata caccaccaca tggacatagc accagacact ctgccacaca 1320
gatacaccac cacacagaaa tgcggacaca ctgccacaca gacaccacca catcgttgcc 1380
acactttcat gtgtcagctg gcggtgtggg cccacgact ctgggctcta atcgagaaat 1440
tacttgagca tatagtgaag gcaaaatttt tttttatttt ctgggtaacc aagcgcgact 1500
ctgtctcaaa aaaagaaaaa aaaagcaata tactgtgtaa tcgttgacag cataattcac 1560
tattatgtag atcggagagc agaggattct gaatgcatga acatatcatt aacatttcaa 1620
tacattactg ataattactg atgaactaaa gagaaaccaa gaaattatgg tgatagttaa 1680
attgacctgg agaaatgtag acacaaaaga accgtaagat gagaaatgtg ttaacacagt 1740
ctataagggc atgcaagaat aaaaataggg gagaaaacag gagagttttt caagagcttt 1800
ctgggtcatgt aagtcaactt gtatcggtta atttttaaaa ggtttattta catgcaataa 1860
actgcacata cttcaattgt acattttggg aattcttggc attttagct ctataaaacc 1920
agcaacatat taaaatagca aacatatcca ttacctttac caccaaagtt ttcttgtgtt 1980
ttttctactc actttttcct gcctatcccc ccactctctc cacaggtaac cactgatcca 2040
cttccagtca ctatccatga gtttttattt ccaaatacat gaaatcatat gaatttctgg 2100
tttttctgt tggagcccaa ggagcaaggg cagaatgagg aacatgatgt ttcttccga 2160
cagttactca tgacgtctcc atccaggact gaggggggca tccttctcca tctaggactg 2220
ggggcatcct tctccatcca gtattggggg tcatccttct ccatccagta ttgggggtca 2280
tcctcctcca tccaggacct gaggggtgtc cttttctgcg cttccttgga tggcagctct 2340
tcccttcatg tttatagtra cttaccatta aatcactgtg ccgttttttc ctaaaataaa 2400
aaaaaaaaaa aaaa 2414

<210> 476
<211> 3434
<212> DNA
<213> Homo sapiens

<400> 476

```

ctgtgctgca aatggggcca tatagaggaa aggagcagct ggctctggag catggtgtgc 60
actccctttg ggccttcagt ccattgtctca tgggtcgat gacactgctg gcttgttggt 120
tgccaagagg cagaccacag gtcattctga ggaggacttt atgttccagt ccagaaagca 180
gccagtggta ccaccaggg gacttgtgct tctgtggccc aggccagacg tagaatttga 240
caaagtcagg acggtctcag tcagagcagc atgtcggtcc ccggggcctg tgcattgctg 300
gcagggccag gctggcctaa ggagcaagca gccacctctg ttaggggtgt gcctggagca 360
ggtggagcag ccaccaacct cactgactga aagaagcagg gatggccagg ttccaacatc 420
ctgagtggct gccacctgat ggctgatgga gcagaggcct gaggaagagc agatggcact 480
gctttgtagt gctgttcttt gtctctcttg atctttttca gttaatgtct gttttatcag 540
agactaggat tgcaaacctt gctctttttt gctttccatt tgcttggtta atattcctcc 600
atccctttat ttttaagcct tgtgtgtctt tgcacatgag atgggtctcc tgaatacagg 660
acaacaatgg gtctttactc tttatccaac ttgccagtct gtgtctttta actggggcat 720
ttagcccatc tacatttaag tttagtattt gttacatgtg aaatttatcc tgcattgatg 780
ttgctagctt tttatttttc ccattagttt gcagtttctt tatagtgtca atgggtctta 840
caattcgata tgtttttgta gtggctggta ctggtttttc ctttctacgt ttagtgtctc 900
cttcaggagc tcttgtaaca caagaatgtg gatttatctt ttgtaaggta aatatgtgga 960
tttattcttg gactgtattc tatggccttt accccaagaa tcattacttt ttaaaatgca 1020
attcaaatga gcataaaaca tttacagcct atggaaaggc ttgtggcatt agaattctta 1080
tttataggat tttttgtgt ttttttgaga tatggctctt gtcactgagg cagaagtgcc 1140
gtggtttgat cataattcac cactgacctg aactcttgag tccaagccat ctttttgctt 1200
taattctcca accagttgga tctacaagca taaggcatca tgcgtggcta atttttcac 1260
gttttttttt tttttgtcga gattatggta tctctgtgtt gctctggctg atctcaaatg 1320
tttgacctca agggatcttt ctgccacagc ctcttaaaat gctaggatta tatgcatgat 1380
acaccatgcc tattgtagag tattacatta ttttcaaatg cttattgtaa gagccattta 1440
ttgccttttg cctaaataac tcaatataat atctctgaaa ctttttttg acaaattttg 1500
gggctgtgat atgagagaag ggggtttgaa acttttcta aagagttaac ttagagccat 1560
ttaagaaagg aaaaaacaca aattatcaga aaaacaacag taagatcaag tgcaaaagtt 1620
ctgtggcaaa gatgatgaga gtaagaata tatgtttgtg actcatggtg gcttttactt 1680
tgttcttgaa tttctgagta cgggttaaca ttttaagaat ctacattata gataacattt 1740
tattgcaagt aaatgtattt caaaatttgt tattggtttt gtatgagatt attctcagcc 1800
tacttcatta tcaagctata ttattttatt aatgtagttc gatgatctta cagcaaagct 1860
gaaagctgta tcttcaaaat atgtctattt gactaaaaag ttattcaaca ggagtatta 1920
tctataaaaa aatacaacag gaataaaaaa aacttgagga taaaagatg ttggaaaaag 1980
taatattaaa tcttaaaaaa catatggaaa ctacacaatg gtgaagacac attggtgaag 2040
tcaaaaaata taaattggat ctagaagaaa gggcaatgca ggcaatagaa aaattagtag 2100
aaatcccttt aaaggttagt ttgtaaaatc aggttaagtt atttataatt tgctttcatt 2160
tatttcactg caaattatat tttggatatg tatatatatt gtgcttcttc tgctgtctt 2220
acagcaattt gccttgcaag gttctaggaa aaaggtggca tgtgttttta ctttcaaaat 2280
atttaaattt ccatcattat aacaaaatca atttttcaga gtaatgattc tcaactgtga 2340
gtcatttgat tattaagacc cgttggcata agattacatc ctctgactat aaaaatcctg 2400
gaagaaaacc taggaaatat tctgtctggac attgcacttg gcaatgaatt tatgggcgct 2460
ttggaatcct gcagatataa taatgataat taaacaaaac actcagagaa actgccaacc 2520
ctaggatgaa gtatattgtt actgtgcttt gggattaaaa taagtaacta cagtttatag 2580
aacttttata ctgatacaca gacactaaaa agggaaaggg ttagatgag aagctctgct 2640
atgcaatcaa gaatctcagc cactcatttc ttaggggct gcaggagctc cctgtaagaa 2700
gaggttatgg agtctgtagc ttcaggtaag atacttaaaa cccttcagag tttctccatt 2760
ttttcccata gtttcccaaa aaaggttatg acactttata agaatgcttc acttggtgaa 2820
aacaatatc aaagtcttct tgtagattat ttttaaggac aaatctttat tccatgttta 2880
atttatntag ctttccctgt agctaattat tcatgctgaa cacattttta atgctgtaa 2940
tgtagataat gtaatttatg tatcattaat gcctctttag tagtttagag aaaacgtcaa 3000
aagaaatggc ccagaataa gcttcttgat ttgtaaaatt ctatgtcatt ggctcaaat 3060
tgtatagtat ctcaaaatat aaatatatag acatctcaga taatatattt gaaatagcaa 3120
attcctgta gaaaataata gtacttaact agatgagaat aacaggctgc cattatttga 3180
attgtctcct attcgttttt catttgttgt gttactcatg ttttacttat ggggggatag 3240
atataacttc cgtgtttttc agaagtattg tatgcagtca gtatgagaat gcaatttaa 3300
tttcttgat gctttttcac acttctatta ctagaataa gaatacagta atattggcaa 3360
agaaaattga ccagttcaat aaaatttttt agtaaatctg attgaaaata aaaaaaaa 3420
aaaaaaaaaa aaaa

```

3434

```
<210> 477
<211> 140
<212> PRT
<213> Homo sapiens
```

```

<400> 477
Met Asp Gly His Thr Asp Ile Trp Arg Asn His Met Asp Thr Pro Pro
          5                      10                      15

His Tyr His Arg Asp Thr Asp Thr Arg Arg His His His Met Asp Thr
          20                      25                      30

Leu Ser His Tyr His Arg Asp Thr Arg His His Thr Val Thr Trp Thr
          35                      40                      45

His His His Thr His Glu His Thr Asp Thr Leu Pro Tyr Gly His Trp
          50                      55                      60

His Thr His Cys His Thr Val Thr Trp Thr His Leu His Thr Ile Thr
          65                      70                      75                      80

Pro Pro His Thr Leu Pro Val Asp Thr Arg Thr His Arg His Cys His
          85                      90                      95

Thr Asp Thr Gln Asn Thr Val Thr Arg Arg His His His Ala Asp Thr
          100                      105                      110

Pro Pro Leu Trp Cys Arg Leu Asn Tyr Pro Ala Gly Gly Thr Ala Val
          115                      120                      125

Ala Tyr Ser Cys Leu Ser Asp Trp Leu Ser Pro Gln
          130                      135                      140

```

```
<210> 478
<211> 143
<212> PRT
<213> Homo sapiens
```

<400> 478																
Met	Tyr	Arg	His	Thr	Glu	Thr	Leu	Pro	His	Gly	Asp	Thr	Val	Thr	Gln	
				5					10						15	
Ser	His	Gly	His	Thr	Gly	Ile	Val	Thr	Trp	Thr	Asp	Thr	Gln	Thr	Tyr	
			20					25					30			
Gly	Glu	Ile	Thr	Trp	Thr	His	His	His	Thr	Ile	Thr	Gly	Thr	Gln	Thr	
		35					40					45				
His	Gly	Asp	Ile	Thr	Thr	Trp	Thr	His	Cys	His	Thr	Thr	Thr	Gly	Thr	
	50					55					60					
Arg	Asp	Ile	Thr	Leu	Ser	His	Gly	His	Thr	Ile	Thr	His	Met	Asn	Thr	
	65				70					75					80	
Pro	Thr	His	Cys	His	Met	Asp	Thr	Gly	Thr	His	Thr	Ala	Thr	Leu	Ser	
				85					90					95		

His Gly His Thr Ser Thr Pro Ser His His His Thr His Cys Leu Trp
 100 105 110

Thr Gln Gly His Thr Asp Thr Val Thr Gln Ile His Lys Thr Leu Ser
 115 120 125

His Gly Asp Ile Thr Met Gln Ile His His His Ser Gly Ala Val
 130 135 140

<210> 479

<211> 222

<212> PRT

<213> Homo sapiens

<400> 479

Met Tyr Arg His Thr Glu Thr Leu Pro His Gly Asp Thr Val Thr Gln
 5 10 15

Ser His Glu His Thr Gly Ile Val Thr Trp Thr Asp Thr Gln Thr Tyr
 20 25 30

Gly Glu Ile Thr Leu Thr His His His Thr Ile Thr Gly Thr Gln Thr
 35 40 45

His Gly Asp Ile Thr Thr Trp Thr His Cys His Thr Thr Thr Gly Thr
 50 55 60

Arg Asp Ile Thr Leu Ser His Gly His Thr Ile Thr His Met Asn Thr
 65 70 75 80

Pro Thr His Cys His Met Asp Thr Ala Thr His Thr Ala Thr Leu Ser
 85 90 95

His Gly His Thr Ser Ile Pro Ser His His His Thr His Cys His Val
 100 105 110

Asp Thr Arg Thr His Arg His Cys His Thr Asp Thr Gln Asn Thr Val
 115 120 125

Thr Arg Arg His His His Ala Asp Thr Pro Pro His Gly His Ser Thr
 130 135 140

Arg His Ser Ala Thr Gln Ile His His His Thr Glu Met Arg Thr His
 145 150 155 160

Cys His Thr Asp Thr Thr Thr Ser Leu Pro His Phe His Val Ser Ala
 165 170 175

Gly Gly Val Gly Pro Thr Thr Leu Gly Ser Asn Arg Glu Ile Thr Trp
 180 185 190

Thr Tyr Ser Glu Gly Lys Ile Phe Phe Tyr Phe Leu Gly Asn Gln Ala
 195 200 205

Arg Leu Cys Leu Lys Lys Arg Lys Lys Lys Gln Tyr Thr Val
 210 215 220

<210> 480
 <211> 144
 <212> PRT
 <213> Homo sapiens

<400> 480
 Met Glu Pro Tyr Arg Gly Asn Glu Gln Pro Ser Gln Glu Gln Gly Val
 5 10 15
 Cys Cys Leu Trp Gly Leu Gln Ser Leu Pro Gln Gly Ser Tyr Val Thr
 20 25 30
 Val Gly Phe Leu Val Val Lys Arg Gln Thr Ile Gly Arg Leu Glu Arg
 35 40 45
 Asp Phe Met Phe Lys Cys Arg Lys Gln Pro Gly Leu Pro Pro Ser Gly
 50 55 60
 Leu Cys Leu Leu Trp Pro Trp Pro Asn Leu Glu Phe Gly Arg Arg Gln
 65 70 75 80
 Asp Arg Leu Thr Trp Ser Ser Val Ser Val Ala Gly Val Cys Ala Cys
 85 90 95
 Arg Ala Arg Pro Gly Trp Leu Gly Glu Gln Pro Ala Thr Ser Ala Gly
 100 105 110
 Val Arg Leu Glu Gln Val Glu Gln Pro Pro Ala His Pro Leu Gln Glu
 115 120 125
 Ala Gly Val Ala Arg Phe Pro Arg Pro Glu Trp Val Pro Pro Asn Gly
 130 135 140

<210> 481
 <211> 167
 <212> PRT
 <213> Homo sapiens

<400> 481
 Met His Gly Pro Gln Val Leu Ala Arg Cys Ser Glu Cys Ala Cys Pro
 5 10 15
 Ala Leu Ala Ala Thr Ser Ala Gly Val Arg Leu Glu Gly Val Asp Arg
 20 25 30
 Pro Pro Thr Leu Pro Ser Gln Gly Ser Gly Trp Pro Cys Ser His Ser
 35 40 45
 Leu Ser Gly Cys His Leu Met Ala Asp Gly Ala Lys Ala Leu Gly Lys
 50 55 60
 Ala Asp Gly Pro Trp Pro Tyr Leu Phe Val Arg Arg Thr Asp Val Pro

```
<210> 482
<211> 143
<212> PRT
<213> Homo sapiens
```

```

<400> 482
Met Glu Pro Tyr Arg Gly Asn Lys Lys Gln Val Gln Glu Lys Gly Val
          5                      10                      15

Pro Cys Leu Trp Gly Ser Ser Pro Cys Leu Arg Cys His Met Ala Leu
          20                      25                      30

Arg Ala Ser Trp Leu Pro Gly Gly Gly Pro Gln Ala Ile Leu Gly Arg
          35                      40                      45

Thr Leu Cys Ser Ser Ala Glu Ser Ser Gln Asp Cys His Pro Gly Gly
          50                      55                      60

Pro Ser Ile Ala Leu Ala Lys Pro Cys Arg Gly Val Trp Leu Leu Phe
          65                      70                      75                      80

Glu Pro Ala Trp Pro Pro Trp His Ala Arg Ala Pro Gly Ala Gly Thr
          85                      90                      95

Leu Leu Arg Val Cys Leu Ser Cys Leu Gly Cys His Leu Cys Gly Gly
          100                      105                      110

Ala Ser Gly Gly Gly Gly Pro Ala Thr Asn Leu Thr Gln Ser Arg Lys
          115                      120                      125

Trp Met Ala Met Phe Pro Gln Pro Glu Trp Leu Pro Pro Asp Gly
          130                      135                      140

```

```
<210> 483
<211> 143
<212> PRT
```

<213> Homo sapiens

<400> 483

```

Met Glu Thr Gln Arg Gly Asn Lys Gln Arg Ala Gln Glu Gln Gly Val
      5              10              15

Cys Cys Leu Trp Gly Ser Ser Pro Cys Leu Gly Ser Tyr Gly Thr Ala
      20              25              30

Gly Phe Leu Val Ala Lys Arg Arg Thr Thr Gly Leu Leu Glu Glu Asp
      35              40              45

Phe Thr Phe Lys Cys Arg Lys Gln Pro Lys Leu Pro Ser Met Arg Leu
      50              55              60

Ser Leu Leu Trp Pro Trp Arg Asp Leu Lys Phe Val Pro Arg Gln Asp
      65              70              75              80

Lys Leu Thr Arg Ser Ser Val Ser Val Ala Gly Ala Tyr Ala Cys Arg
      85              90              95

Ala Gly Pro Gly Trp Leu Lys Glu Gln Pro Ala Thr Ser Ala Arg Val
      100             105             110

Arg Leu Val Gln Ala Glu His Pro Pro Pro His Pro Leu Glu Glu Val
      115             120             125

Gly Met Ala Arg Phe Pro Gln Pro Glu Cys Leu Pro Pro Tyr Cys
      130             135             140

```

<210> 484

<211> 30

<212> PRT

<213> Homo Sapien

<400> 484

```

Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly Phe
  1              5              10              15
Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile
      20              25              30

```

<210> 485

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 485

gggaagctta tcacctatgt gccgcctctg c

31

<210> 486

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 486

gcgaattctc acgctgagta tttggcc

27

<210> 487

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 487

cccgaattct tagctgccca tccgaacgcc ttcata

36

<210> 488

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 488

gggaagcttc ttccccggct gcaccagctg tgc

33

<210> 489

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 489

Met	Asp	Arg	Leu	Val	Gln	Arg	Phe	Gly	Thr	Arg	Ala	Val	Tyr	Leu	Ala
1				5				10					15		
Ser	Val	Ala													

<210> 490

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 490

Tyr	Leu	Ala	Ser	Val	Ala	Ala	Phe	Pro	Val	Ala	Ala	Gly	Ala	Thr	Cys
1				5				10					15		
Leu	Ser	His	Ser												
				20											

<210> 491

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 491

Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
1 5 10 15
Thr Gly Phe Thr
20

<210> 492

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 492

Ala Leu Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr
1 5 10 15
Leu Ala Ser Leu
20

<210> 493

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 493

Tyr Thr Leu Ala Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro
1 5 10 15
Lys Tyr Arg Gly
20

<210> 494

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 494

Leu Pro Lys Tyr Arg Gly Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser
1 5 10 15
Leu Met Ile Ser
20

<210> 495

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 495

Asp Ser Leu Met Thr Ser Phe Leu Pro Gly Pro Lys Pro Gly Ala Pro
1 5 10 15
Phe Pro Asn Gly
20

<210> 496

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 496

Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly Ser Gly Leu Leu
1 5 10 15
Pro Pro Pro Pro Ala
20

<210> 497

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 497

Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys Asp Val
1 5 10 15
Ser Val Arg Val
20

<210> 498

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 498

Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val
1 5 10 15
Val Pro Gly Arg
20

<210> 499

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 499

Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 1 5 10 15
 Ser Ala Phe Leu
 20

<210> 500

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 500

Leu Asp Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met
 1 5 10 15
 Gly Ser Ile Val
 20

<210> 501

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 501

Phe Met Gly Ser Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met
 1 5 10 15
 Val Ser Ala Ala
 20

<210> 502

<211> 414

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1) ... (414)

<223> n = A,T,C or G

<400> 502

caccatggag	acaggcctgc	gctggctttt	cctggctcgt	gtgctcaaag	gtgtccaatg	60
tcagtccgtg	gaggagtcog	ggggctgcct	ggtcacgcct	gggacacctt	tgacantcac	120
ctgtagagtt	tttggaatng	acctcagtag	caatgcaatg	agctgggtcc	gccaggctcc	180
aggaaggagg	ctggaatgga	tggagccat	tgataattgt	ccacantacg	cgacctgggc	240
gaaaggccga	ttnatnatnt	ccaaaacctn	gaccacgggtg	gatttgaaaa	tgaccagtcc	300
gacaaccgag	gacacggcca	cctatntttg	tggcagaatg	aatactggta	atagtggttg	360
gaagaatatt	tggggcccag	gcaccctggt	caccgtntcc	tcagggaac	ctaa	414

<210> 503

<211> 379

<212> DNA

<213> Homo Sapiens

<220>

<221> misc_feature

<222> (1)...(379)

<223> n = A,T,C or G

<400> 503

atnccgatggt	gcttgggtcaa	aggtgtccag	tgtcagtcgg	tggaggagtc	cggggggtcgc	60
ctgggtcacgc	ctgggacacc	cctgacactc	acctgcaccg	tntctggatt	ngacatcagt	120
agctatggag	tgagctgggt	ccgccaggct	ccaggggaagg	ggctgggnata	catcggatca	180
ttagtagtag	tggtacattt	tacgcgagct	gggcgaaagg	ccgattcacc	atttccaaaa	240
cctngaccac	ggtggatttg	aaaatcacca	gtttgacaac	cgaggacacg	gccacctatt	300
tntgtgccag	aggggggttt	aattataaag	acatttgggg	cccaggcacc	ctgggtcaccg	360
tntccttagg	gcaacctaa					379

<210> 504

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 504

Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp	Ser	Pro	Tyr	Phe	Lys	Glu
1			5					10						15	
Asn	Ser	Ala													

<210> 505

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 505

Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn	Asp	Asn	Val	Thr
1				5				10						15	
Asn	Thr	Ala	Asn												
				20											

<210> 506

<211> 407

<212> DNA

<213> Homo Sapien

<400> 506

atggagacag	gcctgcgctg	gcttctcctg	gtcgcctgcgc	tcaaagggtgt	ccagtgtcag	60
tcgctggagg	agtccggggg	tcgcctgggtc	acgcctggga	cacccttgac	actcacctgc	120
accgtctctg	gattctcect	cagtagcaat	gcaatgatct	gggtccgccca	ggctccaggg	180
aaggggctgg	aatacatcgg	atacattagt	tatgggtggta	gcgcatacta	cgcgagctgg	240
gtgaaaggcc	gattcaccat	ctccaaaacc	tcgaccacgg	tggatctgag	aatgaccagt	300
ctgacaaccg	aggacacggc	cacctatttc	tgtgccagaa	atagtgattt	tagtggtatg	360
ttgtggggcc	caggcaccct	ggtcaccgtc	tcctcagggc	aacctaa		407

<210> 507
 <211> 422
 <212> DNA
 <213> Homo Sapien

<400> 507
 atggagacag gcctgcgctg gcttctcctg gtcgctgtgc tcaaagggtg ccagtgtcag 60
 tcggtggagg agtccggggg tcgcctgggc acgcctggga caccctgac actcacctgt 120
 acagtctctg gattctccct cagcaactac gacctgaact gggcccgcca ggctccaggg 180
 aaggggctgg aatggatcgg gatcattaat tatgttggtg ggacggacta cgcgaactgg 240
 gcaaaaggcc ggttcaccat ctccaaaacc tcgaccaccg tggatctcaa gatcgccagt 300
 ccgacaaccg aggacacggc cacctatttc tgtgccagag ggtggaagtg cgatgagtct 360
 ggtccgtgct tgcgcactcg gggcccaggc accctgggtc ccgtctcctt agggcaacct 420
 aa 422

<210> 508
 <211> 411
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> misc_feature
 <222> (1) ... (411)
 <223> n = A,T,C or G

<400> 508
 atggagacag gcctcgctgg cttctcctgg tcgctgtgct caaagggtgc cagtgtcagt 60
 cgggtggagga gtccgggggt cgcttggtca cgctgggac acccctgaca ctcacctgca 120
 cagtctctgg aatcgacctc agtagctact gcatgagctg ggtccgccag gctccaggga 180
 aggggctgga atggatcgga atcattggta ctctgggtga cacatactac gcgagggtggg 240
 cgaaaggccg attcaccatc tccaaaacct cgaccacggg gcatntgaaa atcnccagtc 300
 cgacaaccga ggacacggcc acctatttct gtgccagaga tcttcgggat ggtagtagta 360
 ctgggttatta taaaatctgg ggcccaggca ccctgggtcac cgtctccttg g 411

<210> 509
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 509
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 1 5 10 15

<210> 510
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 510
 Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5 10 15

<210> 511
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 511

Tyr	His	Pro	Ser	Met	Phe	Cys	Ala	Gly	Gly	Gly	Gln	Asp	Gln	Lys
1				5				10					15	

<210> 512
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 512

Asp	Ser	Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu
1				5				10					15	

<210> 513
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 513

Ala	Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Asx	Val	Tyr	Thr	Asn	Leu
1				5				10					15	

<210> 514
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 514

Leu	Cys	Lys	Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser
1				5				10					15	

<210> 515
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Made in a lab

<400> 515
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg
 1 5 10 15

<210> 516
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 516
 Val Ser Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln
 1 5 10 15

<210> 517
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 517
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met
 1 5 10 15

<210> 518
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 518
 Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 1 5 10 15

<210> 519
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 519
 Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg Asn Tyr Asp Glu Gly Cys
 1 5 10 15
 Gly

<210> 520
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Made in a lab

<400> 520

Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg Ala Glu Pro Gly Thr
1 5 10 15
Glu Ala Arg Arg His Tyr Asp Glu Gly
20 25

<210> 521

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 521

Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly Ser Gly Leu Leu
1 5 10 15
Pro Pro Pro Pro Ala
20

<210> 522

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 522

Leu Leu Val Val Pro Ala Ile Lys Lys Asp Tyr Gly Ser Gln Glu Asp
1 5 10 15
Phe Thr Gln Val
20

<210> 523

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<220>

<221> VARIANT

<222> (1)...(254)

<223> Xaa = any amino acid

<400> 523

Met Ala Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile
1 5 10 15
Leu Gly Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile
20 25 30
Asn Gly Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu
35 40 45

Val Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln
 50 55 60
 Trp Val Leu Ser Ala Thr His Cys Phe Gln Asn Ser Tyr Thr Ile Gly
 65 70 75 80
 Leu Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met
 85 90 95
 Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu
 100 105 110
 Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu
 115 120 125
 Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala
 130 135 140
 Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg
 145 150 155 160
 Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu
 165 170 175
 Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys
 180 185 190
 Ala Gly Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser Gly
 195 200 205
 Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly
 210 215 220
 Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu
 225 230 235 240
 Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 245 250

<210> 524

<211> 765

<212> DNA

<213> Homo sapien

<400> 524

atggccaacag	caggaaatcc	ctggggctgg	ttcctgggggt	acctcactect	tggtgtcgca	160
ggatcgctcg	tctctggtag	ctgcagccaa	atcataaacg	gcgaggactg	cagcccgcac	120
tcgcagccct	ggcaggcggc	actgggtcatg	gaaaacgaat	tggtctgctc	gggcgtcctg	180
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggtg	240
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggt	ggaggccagc	300
ctctccgtac	ggcaccacaga	gtacaacaga	cccttgctcg	ctaacgacct	catgctcatc	360
aagtgggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatcagcat	tgcttcgcag	420
tgccctaccg	cggggaactc	ttgcctcggt	tctggctggg	gtctgctggc	gaacggcaga	480
atgcctaccg	tgctgcagtg	cgtgaacgtg	tcggtgggtg	ctgaggaggt	ctgcagtaag	540
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgccg	gcggagggca	agaccagaag	600
gactcctgca	acgggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	660
gtgtctttcg	gaaaagcccc	gtgtggccaa	gttggcgtgc	caggtgtcta	caccaacctc	720
tgcaaattca	ctgagtggat	agagaaaacc	gtccaggcca	gttaa		765

<210> 525

<211> 254

<212> PRT

<213> Homo sapien

<400> 525

Met Ala Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile
 1 5 10 15
 Leu Gly Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile
 20 25 30
 Asn Gly Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu

```
<210> 526
<211> 963
<212> DNA
<213> Homo sapiens
```

<400> 526

atgagttcct	gcaacttcac	acatgccacc	tttgtgctta	ttggtatccc	aggattagag	60
aaagcccatt	tctgggttgg	cttccccctc	ctttccatgt	atgtagtggc	aatgtttgga	120
aactgcatcg	tggctctcat	cgtaaggacg	gaacgcagcc	tgcacgctcc	gatgtacctc	180
tttctctgca	tgcttgacgc	cattgacctg	gccttatcca	catccaccat	gcctaagatc	240
cttgcctttt	tctgggttga	ttcccagagag	attagctttg	aggcctgtct	taccagatg	300
tctcttattc	atgccctctc	agccattgaa	tccaccatcc	tgctggccat	ggcctttgac	360
cgttatgtgg	ccatctgcca	cccactgcgc	catgctgcag	tgctcaacaa	tacagtaaca	420
gccagatttg	gcatcgtggc	tctgggtccg	ggatccctct	ttttttccc	actgcctctg	480
ctgatcaagc	ggctggcctt	ctgccactcc	aatgtcctct	cgcactccta	ttgtgtccac	540
caggatgtaa	tgaagttggc	ctatgcagac	actttgcccc	atgtggtata	tggctcttact	600
gccattctgc	tgggtcatggg	cgtggacgta	atgttcacat	ccttgtccta	ttttctgata	660
atacgaacgg	ttctgcaact	gccttccaag	tcagagcggg	ccaaggcctt	tggaaacctgt	720
gtgtcacaca	tgggtgtggt	actgcgcttc	tatgtgccac	ttattggcct	ctcagttgta	780
caccgctttg	gaaacagcct	tcatcccat	gtgcgtgttg	tcatgggtga	catctacctg	840
ctgctgcctc	ctgtcatcaa	tcccatcacc	tatggtgcc	aaaccaaaca	gatcagaaca	900
cgggtgctgg	ctatgttcaa	gatcagctgt	gacaaggact	tgcaggctgt	gggaggcaag	960
tga						963

```
<210> 527
<211> 320
<212> PRT
<213> Homo sapiens
```

<400> 527

305

310

315

320

<210> 528
<211> 20
<212> DNA
<213> Homo Sapien

<400> 528
actatgggtcc agaggctgtg

20

<210> 529
<211> 20
<212> DNA
<213> Homo Sapien

<400> 529
atcacctatg tgccgcctct

20

<210> 530
<211> 1852
<212> DNA
<213> Homo sapiens

<400> 530

ggcacgagaa	ttaaaaccct	cagcaaaaaca	ggcatagaag	ggacatacct	taaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atgggggaaaa	gttagaagca	120
tttcctctga	gaactgcaac	aataaataca	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
ctgcggcagc	ttcgggataa	cttgaggctg	catcactggg	gaagaaacac	aytcctgtcc	360
gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttcttcgg	420
ggagtctctc	cttcatagtt	catccatatt	gtctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcatctct	tgatgtgtga	540
ttgggtagg	tccaccatgt	tgccgcagat	gacatgattt	cagtacctgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatattgtgg	tttctggatc	tcctcctctg	tggtgggaca	660
gctttctcca	ccttgctgga	agtgaacctg	tgtccagaag	tttgatggct	gaggagtata	720
ccatcgtgca	tgcatcttct	atttcctgca	tttcttcttc	cctggatgga	cagggggagc	780
ggcaagagca	acgtgggcac	ttctggagac	cacaacgact	cctctgtgaa	gacgcttggg	840
agcaagaggt	gcaagtgggtg	ctgccactgc	ttcccctgct	gcagggggag	cggcaagagc	900
aacgtggctg	cttggggaga	ctacgatgac	agcgccttca	tggatcccag	gtaccacgtc	960
catggagaag	atctggacaa	gctccacaga	gctgcctggt	ggggtaaagt	ccccagaaag	1020
gatctcatcg	tcattgctcag	ggacacggat	gtgaacaaga	gggacaagca	aaagaggact	1080
gctctacatc	tggcctctgc	caatgggaat	tcagaagtag	taaaactcgt	gctggacaga	1140
cgatgtcaac	ttaatgtcct	tgacaacaaa	aagaggacag	ctctgacaaa	ggccgtacaa	1200
tgccaggaag	atgaatgtgc	gttaatgttg	ctggaacatg	gcactgatcc	aaatattcca	1260
gatgagtatg	gaaataccac	tctacactat	gctgtctaca	atgaagataa	attaatggcc	1320
aaagcactgc	tcttatacgg	tgtgatatac	gaatcaaaaa	acaagcatgg	cctcacacca	1380
ctgctacttg	gtatacatga	gcaaaaacag	caagtgggtga	aatttttaat	caagaaaaaa	1440
gcgaatttaa	atgcgctgga	tagatatgga	agaactgctc	tcatacttgc	tgtatgttgt	1500
ggatcagcaa	gtatagtcag	ccctctactt	gagcaaaatg	ttgatgtatc	ttctcaagat	1560
ctggaaagac	ggccagagag	tatgctgttt	ctagtcatca	tcattgtaatt	tgccagttac	1620
tttctgacta	caaagaaaaa	cagatgttaa	aaatctcttc	tgaaaacagc	aatccagaac	1680
aagacttaaa	gctgacatca	gaggaagagt	cacaaaggct	taaaggaagt	gaaaacagcc	1740
agccagagct	agaagattta	tggctattga	agaagaatga	agaacacgga	agtactcatg	1800
tgggattccc	agaaaacctg	actaacgggtg	ccgctgctgg	caatgggtgat	ga	1852

<210> 531
<211> 879

<212> DNA

<213> Homo sapiens

<400> 531

```

atgcatcttt catttctgc atttcttct ccctggatgg acagggggag cggcaagagc 60
aacgtgggca cttctggaga ccacaacgac tcctctgtga agacgcttgg gagcaagagg 120
tgcaagtggg gctgccactg cttcccctgc tgcaggggga gcggaagag caacgtgggc 180
gcttggggag actacgatga cagcgcttc atggatccca ggtaccacgt ccatggagaa 240
gatctggaca agctccacag agctgcctgg tggggtaaag tcccagaaa ggatctcatc 300
ctcatgctca gggacacgga tgtgaacaag agggacaagc aaaagaggac tgctctacat 360
ctggcctctg ccaatgggaa ttcagaagta gtaaaactcg tgctggacag acgatgtcaa 420
cttaatgtcc ttgacaacaa aaagaggaca gctctgacaa aggccgtaca atgccaggaa 480
gatgaatgtg cgtaaatgtt gctggaacat ggcactgatc caaatattcc agatgagtat 540
ggaaatacca ctctacacta tgctgtctac aatgaagata aattaatggc caaagcactg 600
ctcttatacg gtgctgatat cgaatcaaaa aacaagcatg gcctcacacc actgctactt 660
gggtatacatg agcaaaaaaca gcaagtggtg aaatttttaa tcaagaaaaa agcgaattta 720
aatgcgctgg atagatatgg aagaactgct ctcatacttg ctgtatgttg tggatcagca 780
agtatagtca gccctctact tgagcaaaat gttgatgtat cttctcaaga tctggaaaga 840
cggccagaga gtatgctgtt tctagtcac atcatgtaa 879

```

<210> 532

<211> 292

<212> PRT

<213> Homo sapiens

<400> 532

```

Met His Leu Ser Phe Pro Ala Phe Leu Pro Pro Trp Met Asp Arg Gly
                    5                      10                      15

Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp His Asn Asp Ser Ser
                    20                      25                      30

Val Lys Thr Leu Gly Ser Lys Arg Cys Lys Trp Cys Cys His Cys Phe
                    35                      40                      45

Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val Val Ala Trp Gly Asp
                    50                      55                      60

Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr His Val His Gly Glu
                    65                      70                      75                      80

Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg
                    85                      90                      95

Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Arg Asp
                    100                     105                     110

Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser
                    115                     120                     125

Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys Gln Leu Asn Val Leu
                    130                     135                     140

Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala Val Gln Cys Gln Glu
                    145                     150                     155                     160

Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile
                    165                     170                     175

```

Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Val Tyr Asn Glu
 180 185 190

Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu
 195 200 205

Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Ile His Glu
 210 215 220

Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu
 225 230 235 240

Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys
 245 250 255

Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu Glu Gln Asn Val Asp
 260 265 270

Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu Ser Met Leu Phe Leu
 275 280 285

Val Ile Ile Met
 290

<210> 533
 <211> 801
 <212> DNA
 <213> Homo sapiens

<400> 533
 atgtacaagc ttcagtgcaa caactgtgct acaaatggag ccacagagag gaaacaagca 60
 gcaggctcag gagcagggtg tgcgctgcct tcggctctcc aatccatgcc tcagggtctcc 120
 tatgccactg cagcattctt ggttgccaag aggccaacca caggccatct tgagaaggag 180
 tttatgttcc actgcagaaa gcagccagga tcaccatcca ggggacttgg tcttctgtgg 240
 ccctggccag acatagaatt tgtgccaagg caggacaagc tcactcagag cagcgtgtta 300
 gtacctcaaa tctgtgctg ccagacaagg ccaaactggc tcaatgagca accagccacc 360
 tctgcagggg tgcgtctgga ggaggtggac cagccaccaa ccttaccag tcaaggaagt 420
 ggatggccat gttcccacag cctgagtggc tgccacctga tggctgatat agcaaaggcc 480
 ttaggaaaag cagatggccc ttggccctac ctttttgtta gaagaactga tgttccatgt 540
 cctgcagcga gtgaggttgg tggctgtgcc ccagctcct ggcacaccct cgcagaggtg 600
 actggttgct ctttgagccc tcttagcctt gccagcatg cacaagcctc agtgctacta 660
 ctgtgctaca aatggagcca tataggggaa acgagcagcc atctcaggag caaggtgtat 720
 gctgcctttg ggggctccag tccttgccctc aagggtctta tgtcactgtg ggcttcttgg 780
 ttgccaagag gcagaccata g 801

<210> 534
 <211> 266
 <212> PRT
 <213> Homo sapiens

<400> 534
 Met Tyr Lys Leu Gln Cys Asn Asn Cys Ala Thr Asn Gly Ala Thr Glu
 5 10 15

Arg Lys Gln Ala Ala Gly Ser Gly Ala Gly Tyr Ala Leu Pro Ser Ala
 20 25 30

Leu Gln Ser Met Pro Gln Gly Ser Tyr Ala Thr Ala Arg Phe Leu Val
 35 40 45
 Ala Lys Arg Pro Thr Thr Gly His Leu Glu Lys Glu Phe Met Phe His
 50 55 60
 Cys Arg Lys Gln Pro Gly Ser Pro Ser Arg Gly Leu Gly Leu Leu Trp
 65 70 75 80
 Pro Trp Pro Asp Ile Glu Phe Val Pro Arg Gln Asp Lys Leu Thr Gln
 85 90 95
 Ser Ser Val Leu Val Pro Gln Ile Cys Ala Cys Gln Thr Arg Pro Asn
 100 105 110
 Trp Leu Asn Glu Gln Pro Ala Thr Ser Ala Gly Val Arg Leu Glu Glu
 115 120 125
 Val Asp Gln Pro Pro Thr Leu Pro Ser Gln Gly Ser Gly Trp Pro Cys
 130 135 140
 Ser His Ser Leu Ser Gly Cys His Leu Met Ala Asp Ile Ala Lys Ala
 145 150 155 160
 Leu Gly Lys Ala Asp Gly Pro Trp Pro Tyr Leu Phe Val Arg Arg Thr
 165 170 175
 Asp Val Pro Cys Pro Ala Ala Ser Glu Val Gly Gly Cys Ala Pro Ser
 180 185 190
 Ser Trp His Thr Leu Ala Glu Val Thr Gly Cys Ser Leu Ser Pro Leu
 195 200 205
 Ser Leu Ala Gln His Ala Gln Ala Ser Val Leu Leu Leu Cys Tyr Lys
 210 215 220
 Trp Ser His Ile Gly Glu Thr Ser Ser His Leu Arg Ser Lys Val Tyr
 225 230 235 240
 Ala Ala Phe Gly Gly Ser Ser Pro Cys Leu Lys Gly Leu Met Ser Leu
 245 250 255
 Trp Ala Ser Trp Leu Pro Arg Gly Arg Pro
 260 265

<210> 535

<211> 6082

<212> DNA

<213> Homo sapiens

<400> 535

cctccactat tacagcttat aggaaattac aatccacttt acaggcctca aaggttcatt 60
 ctggccgagc ggacaggcgt ggcggccgga gccccagcat ccctgcttga ggtccaggag 120
 cggagcccgc ggccactgcc gctgatcag cgcgaccccg gcccgcgccc gccccgcccg 180
 gcaagatgct gcccgtgtac caggaggtga agcccaaccc gctgcaggac gcgaacctct 240
 gctcacgcgt gttcttctgg tggctcaatc ccttgtttaa aattggccat aaacggagat 300

```

tagaggaaga tgatatgtat tcagtgtctgc cagaagaccg ctcacagcac cttggagagg 360
agttgcaagg gttctgggat aaagaagttt taagagctga gaatgacgca cagaagcctt 420
ctttaacaag agcaatcata aagtgttact ggaaatctta tttagttttg ggaattttta 480
cgttaattga ggaaagtgcc aaagtaatcc agcccatatt tttgggaaaa attattaatt 540
attttgaaaa ttatgatccc atggattctg tggctttgaa cacagcgtac gcctatgcca 600
cgggtgtgac tttttgcacg ctcatttttg ctatactgca tcacttatat ttttatcacg 660
ttcagtgtgc tgggatgagg ttacgagtag ccatgtgcca tatgatttat cgggaaggcac 720
ttcgtcttag taacatggcc atggggaaga caaccacagg ccagatagtc aatctgctgt 780
ccaatgatgt gaacaagttt gatcaggtga cagtgttctt acacttctctg tgggcaggac 840
cactgcaggc gatcgagtg actgccctac tctggatgga gataggaata tcgtgccttg 900
ctgggatggc agttctaata atttctctgc ccttgcaaaag ctgttttggg aagtgttctt 960
catcactgag gagtaaaact gcaactttca cggatgccag gatcaggacc atgaatgaag 1020
ttataactgg tataaggata ataaaaatgt acgcctggga aaagtcattt tcaaatctta 1080
ttaccaattt gagaaagaag gagatttcca agattctgag aagtctctgc ctcaggggga 1140
tgaatttggc ttcgtttttc agtgcaagca aaatcatcgt gtttgtgacc ttcaccacct 1200
acgtgtctct cggcagtgtg atcacagcca gccgcgtgtt cgtggcagtg acgtgttatg 1260
gggctgtgcy gctgacggtt accctcttct tccccctcagc cattgagagg gtgtcagagg 1320
caatcgtcag catccgaaga atccagacct ttttgcctact tgatgagata tcacagcgca 1380
accgtcagct gccgtcagat ggtaaaaaga tgggtcatgt gcaggatttt actgcttttt 1440
gggataaggc atcagagacc ccaactctac aaggcctttc ctttactgtc agacctggcg 1500
aattgttagc tgtggtcggc cccgtgggag cagggaagtc atcactgtta agtgccgtgc 1560
tcggggaatt ggccccaaag cacgggctgg tcagcgtgca tggaagaatt gcctatgtgt 1620
ctcagcagcc ctgggtgttc tcgggaaactc tgaggagtaa ttttttattt gggaagaaat 1680
acgaaaagga acgatatgaa aaagtcataa aggcctgtgc tctgaaaaag gatttacagc 1740
tggtggagga tggatgactg actgtgatag gagatcgggg aaccacgctg agtggagggc 1800
agaaagcacg ggtaaacctt gcaagagcag tgtatcaaga tgctgacatc tatctcctgg 1860
acgatcctct cagtgcagta gatgcggaag tagtcagaca cttgttcgaa ctgtgtattt 1920
gtcaaatttt gcatgagaag atcacaattt tagtgactca tcagttgcag tacctcaaag 1980
ctgcaagtca gattctgata ttgaaagatg gtaaaatggt gcagaagggg acttacactg 2040
agttcctaaa atctgtgata gattttggct cccttttaaa gaaggataat gaggaaagtg 2100
aacaacctcc agttccagga actccacac taaggaatcg taccttctca gagtcttcgg 2160
tttggctcga acaatcttct agacctctct tgaagatgg tgctctggag agccaagata 2220
cagagaattg cccagttaca ctatcagagg agaaccgttc tgaaggaaaa gttggttttc 2280
aggcctataa gaattacttc agagctgggt ctcatggat tgtcttcatt ttccttattc 2340
tctaaacac tgcagctcag gttgcctatg tgcttcaaga ttgggtggct tcatactggg 2400
caaacaacaa aagtatgcta aatgtcactg taaatggagg aggaaatgta accgagaagc 2460
tagatcttaa ctggtactta ggaatttatt cagggtttaac tgtagctacc gttctttttg 2520
gcatagcaag atctctattg gtattctacg tccctgttaa ctcttcacaa actttgcaca 2580
acaaaatggt tgagtcaatt ctgaaagctc cggatattatt ctttgataga aatccaatag 2640
gaagaatttt aaatcgtttc tccaaagaca ttggacactt ggatgatttg ctgccgctga 2700
cgttttttaga tttcatccag acattgctac aagtgggttg tgtggtctct gtggctgtgg 2760
cgtgattcc ttggatcgca atacccttg tcccccttg aatcattttc atttttcttc 2820
ggcgatatatt tttggaaacg tcaagagatg tgaagcgcc ggaatctaca actcggagtc 2880
cagtgttttc ccactgttca tcttctctcc aggggctctg gaccatccgg gcatacaaag 2940
cagaagagag gtgtcaggaa ctgtttgatg cacaccagga ttacattca gaggcttggg 3000
tcttgttttt gacaacgtcc cgctgggttc cgtccgtct ggatgccatc tgtgccatgt 3060
ttgtcatcat cgttgccctt gggccctga ttctggcaaa aactctggat gccggggcagg 3120
ttggtttggc actgtcctat gccctcacgc tcatggggat gtttcagtgg tgtgttcgac 3180
aaagtgtga agttgagaat atgatgatct cagtagaaag ggtcattgaa tacacagacc 3240
ttgaaaaaga agcaccttg gaatatcaga aacgcccacc accagcctgg ccccatgaag 3300
gagtgataat ctttgacaat gtgaacttca tgtacagtc aggtgggcct ctggtactga 3360
agcatctgac agcactcatt aaatcacaa gaaaggttgg cattgtggga agaaccggag 3420
ctggaaaaag tccccctac tcagcccttt ttagattgtc agaaccgaa ggtaaaaatt 3480
ggattgataa gatcttgaca actgaaattg gacttcacga ttttaaggaa aaaatgtcaa 3540
tcataacctca ggaacctgtt ttgttcactg gaacaatgag gaaaaacctg gatcccttta 3600
atgagcacac ggatgaggaa ctgtggaatg ccttacaaga ggtacaactt aaagaaacca 3660
ttgaagatct tctggtaaa atggatactg aattagcaga atcaggatcc aatttttagt 3720
ttggacaaag acaactgggtg tgccttgcca gggcaattct caggaaaaat cagatattga 3780

```

```

ttattgatga agcgacggca aatgtggatc caagaactga tgagttaata caaaaaaat 3840
ccggggagaaa tttgcccact gcaccgtgct aaccattgca cacagattga acaccattat 3900
tgacagcgac aagataatgg ttttagattc aggaagactg aaagaatatg atgagccgta 3960
tgttttgctg caaaataaag agagcctatt ttacaagatg gtgcaacaac tgggcaaggc 4020
agaagccgct gccctcactg aaacagcaaa acagggtatac ttcaaaagaa attatccaca 4080
tattggtcac actgaccaca tggttacaaa cacttccaat ggacagccct cgaccttaac 4140
tattttcgag acagcactgt gaatccaacc aaaatgtcaa gtccgttccg aaggcatttg 4200
ccactagttt ttggactatg taaaccacat tgtacttttt tttacttttg caacaaatat 4260
ttatacatat aagatgctag ttcatgtgaa tttttctccc aacttatcca aggatctcca 4320
gctctaacaa aatggtttat ttttatttaa atgtcaatag ttgtttttta aaatccaaat 4380
cagaggtgca ggccaccagt taaatgccgt ctatcaggtt ttgtgcctta agagactaca 4440
gagtcaaagc tcatTTTTTaa aggagtagga cagagttgtc acagggtttt gttgttggtt 4500
ttattgcccc caaaattaca tgTTaatttc catttatatc agggattcta tttacttgaa 4560
gactgtgaag ttgccatttt gtctcattgt tttctttgac ataactagga tccattattt 4620
ccccTgaagg cttcttgTTa gaaaatagta cagttacaac caataggaac aacaaaaaga 4680
aaaagtttTgT gacattgtag tagggagtgt gtacccctta ctccccatca aaaaaaaaaa 4740
tggtatacatg gTTaaaggat agaagggcaa ttttttatca tatgttctaa aagagaagga 4800
agagaaaata ctactttctc aaaatggaag cccttaaagg tgctttgata ctgaaggaca 4860
caaatgtgac cgtccatcct ctttagagt tgcagtactt ggacacggta actgttgCag 4920
tttttagactc agcattgtga cacttcccaa gaaggccaaa cctctaaccg acattcctga 4980
aatacgtggc attattcttt ttTggatttc tcatttatgg aaggctaacc ctctgttgac 5040
tgtaagcctt ttggttTggg ctgtattgaa atcctttcta aattgcatga ataggctctg 5100
ctaacgtgat gagacaaact gaaaattatt gcaagcattg actataatta tgcagtacgt 5160
tctcaggatg catccagggg ttcatTTTTc tgagcctgtc caggttagtt tactcctgac 5220
cactaatagc attgtcattt gggctttctg ttgaatgaat caacaaacca caatacttcc 5280
tgggaccttt tgtactttat ttgaactatg agtctttaat tttcctgat gatggTggct 5340
gtaatatgtt gagttcagtt tactaaaggT tttactatta tggtttgaag tggagtctca 5400
tgacctctca gaataaggTg tcacctccct gaaattgcat atatgtatat agacatgcac 5460
acgtgtgcat ttgtttgtat acatatattt gtccttcgta tagcaagttt tttgtctatc 5520
agcagagac aacagatgtt ttattgagtg aagcctttaa aagcacacac cacacacagc 5580
taactgccaa aatacattga ccgtagtagc tgttcaactc ctagtactta gaaatacacg 5640
tatggTTaat gttcagTcca acaaaccaca cacagTaaat gtttattaat agtcatggTt 5700
cgtatttttag gtgactgaaa ttgcaacagt gatcataatg aggtttgtta aaatgatagc 5760
tatattcaaa atgtctatat gtttattTgg acttttgagg ttaaagacag tcatataaac 5820
gtcctgtttc tgtttTaatg ttatcataga atttttTaat gaaactaaat tcaattgaaa 5880
taaatgatag ttttcatctc caaaaaaaa aaaaaaaagg gcggccgctc gagtctagag 5940
ggcccgTtta aaccgctga tcagcctcga ctgtgccttc tagttgccag ccactctgtg 6000
tttgccctc ccccgTgcct tccttgacc tggaggTgc cactccact gtcccttcc 6060
aataaaatga ggaaattgca tc 6082

```

<210> 536

<211> 6140

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (4535)

<223> n=A,T,C or G

<400> 536

```

cagtggcgca gtctcagctc actgcagcct ccacctcctg tgttcaagca gtccctcctgc 60
ctcagccacc agactagcag gtctcccccg cctctttctt ggaaggacac ttgccattgg 120
atttaggacc cacttggtata atccaggatg atgtcttcac tccaacatcc tcagtttaat 180
tccatgtgca aatacccttt tcccaataaa cattcaattc tttaccagga aaggTggctc 240
aatccctTgt tTaaaattgg ccataaacgg agattagagg aagatgatat gtattcagtg 300
ctgccagaag accgctcaca gcaccttgga gaggagtTgc aagggttctg ggataaagaa 360
gttttaagag ctgagaatga cgcacagaag cttcttttaa caagagcaat cataaagtgt 420

```

```

tactggaaat cttatttagt tttgggaatt tttacgttaa ttgaggaaag tgccaaagta 480
atccagccca tatttttggg aaaaattatt aattattttg aaaattatga tcccatggat 540
tctgtggcct tgaacacagc gtacgcctat gccacgggtg tgactttttg cacgctcatt 600
ttggctatac tgcatacact atatttttat cacgttcagt gtgctgggat gaggttacga 660
gtagccatgt gccatatgat ttatcggaag gcacttcgtc ttagtaacat ggccatgggg 720
aagacaacca caggccagat agtcaatctg ctgtccaatg atgtgaacaa gtttgatcag 780
gtgacagtgt tcttacactt cctgtgggca ggaccactgc aggcgatcgc agtgactgcc 840
ctactctgga tggagatagg aatatcgtgc cttgctggga tggcagttct aatcattctc 900
ctgcccttgc aaagctgttt tgggaagttg ttctcatcac tgaggagtaa aactgcaact 960
ttcacggatg ccaggatcag gaccatgaat gaagttataa ctggtataag gataataaaa 1020
atgtacgcct gggaaaagtc attttcaaat cttattacca atttgagaaa gaaggagatt 1080
tccaagattc tgagaagttc ctgcctcagg gggatgaatt tggcttcgtt tttcagtgca 1140
agcaaaatca tcgtgtttgt gaccttcacc acctacgtgc tcctcggcag tgtgatcaca 1200
gccagccgag tgttcgtggc agtgacgctg tatggggctg tgcggctgac ggttacccctc 1260
ttcttccctt cagccattga gagggtgtca gaggcaatcg tcagcatcgc agaataccag 1320
acctttttgc tacttgatga gatatacag cgcaaccgtc agctgccgtc agatggtaaa 1380
aagatgggtg atgtgcagga ttttactgct ttttgggata aggcatacaga gaccccaact 1440
ctacaaggcc tttcctttac tgtcagacct ggcaattgt tagctgtggt cggccccgtg 1500
ggagcagggg agtcatcact gttaagtgcc gtgctcgggg aattggcccc aagtcaaggg 1560
ctggtcagcg tgcattggaag aattgcctat gtgtctcagc agccctgggt gttctcggga 1620
actctgagga gtaatatatt atttgggaag aaatacgaaa aggaacgata tgaaaaagtc 1680
ataaaggctt gtgctctgaa aaaggattta cagctgttgg aggatgggtg tctgactgtg 1740
ataggagatc ggggaaccac gctgagtggg gggcagaaaag cacgggtaaa ccttgcaaga 1800
gcagtgtatc aagatgctga catctatctc ctggacgatc ctctcagtgc agtagatgcg 1860
gaagttagca gacacttgtt cgaactgtgt atttgtcaaa ttttgcata gaagatcaca 1920
attttagtga ctcatcagtt gcagtacctc aaagctgcaa gtcagattct gatattgaaa 1980
gatggtaaaa tgggtgcagaa ggggacttac actgagttcc taaaatctgg tatagatttt 2040
ggctcccttt taaagaagga taatgaggaa agtgaacaac ctccagttcc aggaactccc 2100
acactaagga atcgtacctt ctacagagtct tcggtttggg ctcaacaatc ttctagaccc 2160
tccttgaaaag atggtgctct ggagagccaa gatacagaga atgtcccagt tacactatca 2220
gaggagaacc gttctgaagg aaaagttggt tttcaggcct ataagaatta cttcagagct 2280
ggtgctcact ggattgtctt cattttcctt attctcctaa acactgcagc tcaggttgcc 2340
tatgtgcttc aagattgggt gctttcctac tgggcaaca acaaaagtat gctaaatgtc 2400
actgtaaatg gaggaggaaa tgtaaccgag aagctagatc ttaactggta cttaggaatt 2460
tattcaggtt taactgtagc taccgttctt tttggcatag caagatctct attggatttc 2520
tacgtccttg ttaactcttc acaaaacttg cacaacaaaa tgtttgagtc aattctgaaa 2580
gtccgggtat tattctttga tagaaatcca ataggaagaa ttttaaatcg tttctccaaa 2640
gacattggac acttggatga tttgctgccg ctgacgtttt tagatttcat ccagacattg 2700
ctacaagtgg ttggtgtggt ctctgtggct gtggccgtga ttccctggat cgcaataccc 2760
ttggttcccc ttggaatcat tttcattttt ctccgcatgt attttttggg aacgtcaaga 2820
gatgtgaagc gcctggaatc tacaactcgg agtccagtgt tttcccactt gtcattctct 2880
ctccaggggc tctggaccat ccgggcatac aaagcagaag agaggtgtca ggaactgttt 2940
gatgcacacc aggatttaca ttcagaggtt tgggtcttgt ttttgacaac gtcccgtggt 3000
ttcgccgtcc gtctggatgc catctgtgcc atgtttgtca tcacgtttgc ctttgggtcc 3060
ctgattctgg caaaaactct ggatgccggg cagggttggtt tggcactgtc ctatgccctc 3120
acgctcatgg ggatgtttca gtggtgtgtt cgacaaagtg ctgaagtgtg gaatatgatg 3180
atctcagtag aaagggtcat tgaatacaca gaccttgaaa agaagcacc ttgggaatat 3240
cagaaacgcc caccaccagc ctggcccatc gaaggagtga taatctttga caatgtgaac 3300
ttcatgtaca gtccaggtgg gcctctggta ctgaagcatc tgacagcact cattaaatca 3360
caagaaaagg ttggcattgt ggggaagaacc ggagctggaa aaagttccct catctcagcc 3420
cttttttagat tgtcagaacc cgaaggtaaa atttggattg ataagatctt gacaactgaa 3480
attggacttc acgatttaag gaagaaaatg tcaatcatac ctcaggaacc tgttttgttc 3540
actggaacaa tgaggaaaaa cctggatccc tttaatgagc acacggatga ggaactgtgg 3600
aatgccttac aagaggatca acttaaagaa accattgaag atcttcctgg taaaatggat 3660
actgaattag cagaatcagg atccaatttt agtggttgac aaagacaact ggtgtgcctt 3720
gccagggcaa ttctcaggaa aaatcagata ttgattattg atgaagcgac ggcaaatgtg 3780
gatccaagaa ctgatgagtt aatacaaaaa aaaatccggg agaaatttgc cactgcacc 3840
gtgctaacca ttgcacacag attgaacacc attattgaca gcgacaagat aatgggtttta 3900

```

```

gattcaggaa gactgaaaga atatgatgag ccgtatgttt tgctgcaaaa taaagagagc 3960
ctatttttaca agatgggtgca acaactgggc aaggcagaag ccgctgccct cactgaaaca 4020
gcaaaaacaga gatgggggttt caccatgttg gccaggctgg tctcaaactc ctgacctcaa 4080
gtgatccacc tgccttgccc tcccaaactg ctgagattac aggtgtgagc caccacgccc 4140
agcctgagta tacttcaaaa gaaattatcc acatattggt cacactgacc acatgggttac 4200
aaacacttcc aatggacagc cctcgacctt aactattttc gagacagcac tgtgaatcca 4260
acaaaaatgt caagtccgtt ccgaaggcat ttgccactag tttttggact atgtaaacca 4320
cattgtactt ttttttactt tggcaacaaa tatttataca tacaagatgc tagttcattt 4380
gaatattttct cccaacttat ccaaggatct ccagctctaa caaaatgggt tatttttatt 4440
taaatgtcaa tagtkgkttt ttaaaatcca aatcagaggt gcaggccacc agttaaatgc 4500
cgtctatcag gttttgtgcc ttaagagact acagnagtca gaagctcatt tttaaaggag 4560
taggacagag ttgtcacagg tttttgttgg tgtttktatt gcccccaaaa ttacatgtta 4620
atttccattt atatcagggg attctattta cttgaagact gtgaagttgc cattttgtct 4680
cattgttttc ttgacatam ctaggatcca ttatttcccc tgaaggcttc ttgkagaaaa 4740
tagtacagtt acaaccaata ggaactamca aaaagaaaaa gtttgtgaca ttgtagtagg 4800
gagtgtgtac cccttactcc ccatcaaaaa aaaaaatgga tacatggta aaggatagaa 4860
gggcaatatt ttatcatatg ttctaaaaga gaaggaagag aaaatactac tttctcaaaa 4920
tggaagccct taaaggtgct ttgatactga aggacacaaa tgtgaccgtc catcctcctt 4980
tagagttgca gactttggac acggttaactg ttgcagtttt agactcagca ttgtgacact 5040
tcccaagaag gccaaacctc taaccgacat tcctgaaata cgtggcatta ttcttttttg 5100
gattttctcat ttaggaaggc taaccctctg ttgamtgtam kctttttggg ttgggctgta 5160
ttgaaatcct ttctaaattg catgaatagg ctctgctaac cgtgatgaga caaactgaaa 5220
attattgcaa gcattgacta taattatgca gtacgttctc aggatgcac caggggttca 5280
ttttcatgag cctgtccagg ttagtttact cctgaccact aatagcattg tcatttgggc 5340
tttctgttga atgaatcaac aaaccacaat acttctctggg accttttgta ctttatttga 5400
actatgagtc ttttaattttt cctgatgatg gtggctgtaa tatgttgagt tcagtttact 5460
aaaggtttta ctattatggg ttgaaggagg tctcatgacc tctcagaaaa ggtgcacctc 5520
cctgaaattg catatatgta tatagacatg cacacgtgtg catttgtttg tatacatata 5580
tttgtccttc gtatagcaag ttttttgctc atcagcagag agcaacagat gttttattga 5640
gtgaagcctt aaaaagcaca caccacacac agctaactgc caaaatacat tgaccgtagt 5700
agctgttcaa ctctagtac ttagaaatac acgtatgggt aatgttcagt ccaacaaacc 5760
acacacagta aatgtttatt aatagtcatg gttcgtattt taggtgactg aaattgcaac 5820
agtgatcata atgaggtttg ttaaaatgat agctatatcc aaaatgtcta tatgtttatt 5880
tggaacttttg aggttaaaga cagtcataata aacgtcctgt ttctgtttta atgttatcat 5940
agaatttttt aatgaaacta aattcaattg aaataaatga tagttttcat ctccaaaaaa 6000
aaaaaaaaag ggcggcccgcc tcgagtctag agggcccggt ttaaaccggc tgatcagcct 6060
cgactgtgcc ttctagttgc cagccatctg ttgtttggcc ctcccccggt ccttccttga 6120
ccctggaagg ggccactccc

```

<210> 537

<211> 1228

<212> PRT

<213> Homo sapiens

<400> 537

```

Met Leu Pro Val Tyr Gln Glu Val Lys Pro Asn Pro Leu Gln Asp Ala
          5                      10                      15

```

```

Asn Leu Cys Ser Arg Val Phe Phe Trp Trp Leu Asn Pro Leu Phe Lys
          20                      25                      30

```

```

Ile Gly His Lys Arg Arg Leu Glu Glu Asp Asp Met Tyr Ser Val Leu
          35                      40                      45

```

```

Pro Glu Asp Arg Ser Gln His Leu Gly Glu Glu Leu Gln Gly Phe Trp
          50                      55                      60

```

```

Asp Lys Glu Val Leu Arg Ala Glu Asn Asp Ala Gln Lys Pro Ser Leu

```


65		70		75		80
Thr Arg Ala Ile	Ile Lys Cys Tyr Trp Lys Ser Tyr Leu Val Leu Gly					
	85		90		95	
Ile Phe Thr Leu	Ile Glu Glu Ser Ala Lys Val Ile Gln Pro Ile Phe					
	100	105		110		
Leu Gly Lys Ile	Ile Asn Tyr Phe Glu Asn Tyr Asp Pro Met Asp Ser					
	115	120		125		
Val Ala Leu Asn Thr	Ala Tyr Ala Tyr Ala Thr Val Leu Thr Phe Cys					
	130	135		140		
Thr Leu Ile Leu	Ala Ile Leu His His Leu Tyr Phe Tyr His Val Gln					
	145	150		155		160
Cys Ala Gly Met	Arg Leu Arg Val Ala Met Cys His Met Ile Tyr Arg					
	165	170				175
Lys Ala Leu Arg	Leu Ser Asn Met Ala Met Gly Lys Thr Thr Thr Gly					
	180	185			190	
Gln Ile Val Asn	Leu Leu Ser Asn Asp Val Asn Lys Phe Asp Gln Val					
	195	200		205		
Thr Val Phe Leu	His Phe Leu Trp Ala Gly Pro Leu Gln Ala Ile Ala					
	210	215		220		
Val Thr Ala Leu	Leu Trp Met Glu Ile Gly Ile Ser Cys Leu Ala Gly					
	225	230		235		240
Met Ala Val Leu	Ile Ile Leu Leu Pro Leu Gln Ser Cys Phe Gly Lys					
	245	250			255	
Leu Phe Ser Ser	Leu Arg Ser Lys Thr Ala Thr Phe Thr Asp Ala Arg					
	260	265			270	
Ile Arg Thr Met	Asn Glu Val Ile Thr Gly Ile Arg Ile Ile Lys Met					
	275	280		285		
Tyr Ala Trp Glu	Lys Ser Phe Ser Asn Leu Ile Thr Asn Leu Arg Lys					
	290	295		300		
Lys Glu Ile Ser	Lys Ile Leu Arg Ser Ser Cys Leu Arg Gly Met Asn					
	305	310		315		320
Leu Ala Ser Phe	Phe Ser Ala Ser Lys Ile Ile Val Phe Val Thr Phe					
	325	330			335	
Thr Thr Tyr Val	Leu Leu Gly Ser Val Ile Thr Ala Ser Arg Val Phe					
	340	345		350		
Val Ala Val Thr	Leu Tyr Gly Ala Val Arg Leu Thr Val Thr Leu Phe					
	355	360		365		
Phe Pro Ser Ala	Ile Glu Arg Val Ser Glu Ala Ile Val Ser Ile Arg					
	370	375		380		

Arg Ile Gln Thr Phe Leu Leu Leu Asp Glu Ile Ser Gln Arg Asn Arg
 385 390 395 400
 Gln Leu Pro Ser Asp Gly Lys Lys Met Val His Val Gln Asp Phe Thr
 405 410 415
 Ala Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr Leu Gln Gly Leu Ser
 420 425 430
 Phe Thr Val Arg Pro Gly Glu Leu Leu Ala Val Val Gly Pro Val Gly
 435 440 445
 Ala Gly Lys Ser Ser Leu Leu Ser Ala Val Leu Gly Glu Leu Ala Pro
 450 455 460
 Ser His Gly Leu Val Ser Val His Gly Arg Ile Ala Tyr Val Ser Gln
 465 470 475 480
 Gln Pro Trp Val Phe Ser Gly Thr Leu Arg Ser Asn Ile Leu Phe Gly
 485 490 495
 Lys Lys Tyr Glu Lys Glu Arg Tyr Glu Lys Val Ile Lys Ala Cys Ala
 500 505 510
 Leu Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly Asp Leu Thr Val Ile
 515 520 525
 Gly Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln Lys Ala Arg Val Asn
 530 535 540
 Leu Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile Tyr Leu Leu Asp Asp
 545 550 555 560
 Pro Leu Ser Ala Val Asp Ala Glu Val Ser Arg His Leu Phe Glu Leu
 565 570 575
 Cys Ile Cys Gln Ile Leu His Glu Lys Ile Thr Ile Leu Val Thr His
 580 585 590
 Gln Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile Leu Ile Leu Lys Asp
 595 600 605
 Gly Lys Met Val Gln Lys Gly Thr Tyr Thr Glu Phe Leu Lys Ser Gly
 610 615 620
 Ile Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn Glu Glu Ser Glu Gln
 625 630 635 640
 Pro Pro Val Pro Gly Thr Pro Thr Leu Arg Asn Arg Thr Phe Ser Glu
 645 650 655
 Ser Ser Val Trp Ser Gln Gln Ser Ser Arg Pro Ser Leu Lys Asp Gly
 660 665 670
 Ala Leu Glu Ser Gln Asp Thr Glu Asn Val Pro Val Thr Leu Ser Glu
 675 680 685

Glu Asn Arg Ser Glu Gly Lys Val Gly Phe Gln Ala Tyr Lys Asn Tyr
 690 695 700
 Phe Arg Ala Gly Ala His Trp Ile Val Phe Ile Phe Leu Ile Leu Leu
 705 710 715 720
 Asn Thr Ala Ala Gln Val Ala Tyr Val Leu Gln Asp Trp Trp Leu Ser
 725 730 735
 Tyr Trp Ala Asn Lys Gln Ser Met Leu Asn Val Thr Val Asn Gly Gly
 740 745 750
 Gly Asn Val Thr Glu Lys Leu Asp Leu Asn Trp Tyr Leu Gly Ile Tyr
 755 760 765
 Ser Gly Leu Thr Val Ala Thr Val Leu Phe Gly Ile Ala Arg Ser Leu
 770 775 780
 Leu Val Phe Tyr Val Leu Val Asn Ser Ser Gln Thr Leu His Asn Lys
 785 790 795 800
 Met Phe Glu Ser Ile Leu Lys Ala Pro Val Leu Phe Phe Asp Arg Asn
 805 810 815
 Pro Ile Gly Arg Ile Leu Asn Arg Phe Ser Lys Asp Ile Gly His Leu
 820 825 830
 Asp Asp Leu Leu Pro Leu Thr Phe Leu Asp Phe Ile Gln Thr Leu Leu
 835 840 845
 Gln Val Val Gly Val Val Ser Val Ala Val Ala Val Ile Pro Trp Ile
 850 855 860
 Ala Ile Pro Leu Val Pro Leu Gly Ile Ile Phe Ile Phe Leu Arg Arg
 865 870 875 880
 Tyr Phe Leu Glu Thr Ser Arg Asp Val Lys Arg Leu Glu Ser Thr Thr
 885 890 895
 Arg Ser Pro Val Phe Ser His Leu Ser Ser Ser Leu Gln Gly Leu Trp
 900 905 910
 Thr Ile Arg Ala Tyr Lys Ala Glu Glu Arg Cys Gln Glu Leu Phe Asp
 915 920 925
 Ala His Gln Asp Leu His Ser Glu Ala Trp Phe Leu Phe Leu Thr Thr
 930 935 940
 Ser Arg Trp Phe Ala Val Arg Leu Asp Ala Ile Cys Ala Met Phe Val
 945 950 955 960
 Ile Ile Val Ala Phe Gly Ser Leu Ile Leu Ala Lys Thr Leu Asp Ala
 965 970 975
 Gly Gln Val Gly Leu Ala Leu Ser Tyr Ala Leu Thr Leu Met Gly Met
 980 985 990
 Phe Gln Trp Cys Val Arg Gln Ser Ala Glu Val Glu Asn Met Met Ile

995	1000	1005
Ser Val Glu Arg Val Ile Glu Tyr Thr Asp Leu Glu Lys Glu Ala Pro 1010 1015 1020		
Trp Glu Tyr Gln Lys Arg Pro Pro Pro Ala Trp Pro His Glu Gly Val 1025 1030 1035 1040		
Ile Ile Phe Asp Asn Val Asn Phe Met Tyr Ser Pro Gly Gly Pro Leu 1045 1050 1055		
Val Leu Lys His Leu Thr Ala Leu Ile Lys Ser Gln Glu Lys Val Gly 1060 1065 1070		
Ile Val Gly Arg Thr Gly Ala Gly Lys Ser Ser Leu Ile Ser Ala Leu 1075 1080 1085		
Phe Arg Leu Ser Glu Pro Glu Gly Lys Ile Trp Ile Asp Lys Ile Leu 1090 1095 1100		
Thr Thr Glu Ile Gly Leu His Asp Leu Arg Lys Lys Met Ser Ile Ile 1105 1110 1115 1120		
Pro Gln Glu Pro Val Leu Phe Thr Gly Thr Met Arg Lys Asn Leu Asp 1125 1130 1135		
Pro Phe Asn Glu His Thr Asp Glu Glu Leu Trp Asn Ala Leu Gln Glu 1140 1145 1150		
Val Gln Leu Lys Glu Thr Ile Glu Asp Leu Pro Gly Lys Met Asp Thr 1155 1160 1165		
Glu Leu Ala Glu Ser Gly Ser Asn Phe Ser Val Gly Gln Arg Gln Leu 1170 1175 1180		
Val Cys Leu Ala Arg Ala Ile Leu Arg Lys Asn Gln Ile Leu Ile Ile 1185 1190 1195 1200		
Asp Glu Ala Thr Ala Asn Val Asp Pro Arg Thr Asp Glu Leu Ile Gln 1205 1210 1215		
Lys Lys Ser Gly Arg Asn Leu Pro Thr Ala Pro Cys 1220 1225		
<210> 538		
<211> 1261		
<212> PRT		
<213> Homo sapiens		
<400> 538		
Met Tyr Ser Val Leu Pro Glu Asp Arg Ser Gln His Leu Gly Glu Glu 5 10 15		
Leu Gln Gly Phe Trp Asp Lys Glu Val Leu Arg Ala Glu Asn Asp Ala 20 25 30		
Gln Lys Pro Ser Leu Thr Arg Ala Ile Ile Lys Cys Tyr Trp Lys Ser 35 40 45		

Tyr Leu Val Leu Gly Ile Phe Thr Leu Ile Glu Glu Ser Ala Lys Val
 50 55 60
 Ile Gln Pro Ile Phe Leu Gly Lys Ile Ile Asn Tyr Phe Glu Asn Tyr
 65 70 75 80
 Asp Pro Met Asp Ser Val Ala Leu Asn Thr Ala Tyr Ala Tyr Ala Thr
 85 90 95
 Val Leu Thr Phe Cys Thr Leu Ile Leu Ala Ile Leu His His Leu Tyr
 100 105 110
 Phe Tyr His Val Gln Cys Ala Gly Met Arg Leu Arg Val Ala Met Cys
 115 120 125
 His Met Ile Tyr Arg Lys Ala Leu Arg Leu Ser Asn Met Ala Met Gly
 130 135 140
 Lys Thr Thr Thr Gly Gln Ile Val Asn Leu Leu Ser Asn Asp Val Asn
 145 150 155 160
 Lys Phe Asp Gln Val Thr Val Phe Leu His Phe Leu Trp Ala Gly Pro
 165 170 175
 Leu Gln Ala Ile Ala Val Thr Ala Leu Leu Trp Met Glu Ile Gly Ile
 180 185 190
 Ser Cys Leu Ala Gly Met Ala Val Leu Ile Ile Leu Leu Pro Leu Gln
 195 200 205
 Ser Cys Phe Gly Lys Leu Phe Ser Ser Leu Arg Ser Lys Thr Ala Thr
 210 215 220
 Phe Thr Asp Ala Arg Ile Arg Thr Met Asn Glu Val Ile Thr Gly Ile
 225 230 235 240
 Arg Ile Ile Lys Met Tyr Ala Trp Glu Lys Ser Phe Ser Asn Leu Ile
 245 250 255
 Thr Asn Leu Arg Lys Lys Glu Ile Ser Lys Ile Leu Arg Ser Ser Cys
 260 265 270
 Leu Arg Gly Met Asn Leu Ala Ser Phe Phe Ser Ala Ser Lys Ile Ile
 275 280 285
 Val Phe Val Thr Phe Thr Thr Tyr Val Leu Leu Gly Ser Val Ile Thr
 290 295 300
 Ala Ser Arg Val Phe Val Ala Val Thr Leu Tyr Gly Ala Val Arg Leu
 305 310 315 320
 Thr Val Thr Leu Phe Phe Pro Ser Ala Ile Glu Arg Val Ser Glu Ala
 325 330 335
 Ile Val Ser Ile Arg Arg Ile Gln Thr Phe Leu Leu Leu Asp Glu Ile
 340 345 350

Ser Gln Arg Asn Arg Gln Leu Pro Ser Asp Gly Lys Lys Met Val His
 355 360 365
 Val Gln Asp Phe Thr Ala Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr
 370 375 380
 Leu Gln Gly Leu Ser Phe Thr Val Arg Pro Gly Glu Leu Leu Ala Val
 385 390 395 400
 Val Gly Pro Val Gly Ala Gly Lys Ser Ser Leu Leu Ser Ala Val Leu
 405 410 415
 Gly Glu Leu Ala Pro Ser His Gly Leu Val Ser Val His Gly Arg Ile
 420 425 430
 Ala Tyr Val Ser Gln Gln Pro Trp Val Phe Ser Gly Thr Leu Arg Ser
 435 440 445
 Asn Ile Leu Phe Gly Lys Lys Tyr Glu Lys Glu Arg Tyr Glu Lys Val
 450 455 460
 Ile Lys Ala Cys Ala Leu Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly
 465 470 475 480
 Asp Leu Thr Val Ile Gly Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln
 485 490 495
 Lys Ala Arg Val Asn Leu Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile
 500 505 510
 Tyr Leu Leu Asp Asp Pro Leu Ser Ala Val Asp Ala Glu Val Ser Arg
 515 520 525
 His Leu Phe Glu Leu Cys Ile Cys Gln Ile Leu His Glu Lys Ile Thr
 530 535 540
 Ile Leu Val Thr His Gln Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile
 545 550 555 560
 Leu Ile Leu Lys Asp Gly Lys Met Val Gln Lys Gly Thr Tyr Thr Glu
 565 570 575
 Phe Leu Lys Ser Gly Ile Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn
 580 585 590
 Glu Glu Ser Glu Gln Pro Pro Val Pro Gly Thr Pro Thr Leu Arg Asn
 595 600 605
 Arg Thr Phe Ser Glu Ser Ser Val Trp Ser Gln Gln Ser Ser Arg Pro
 610 615 620
 Ser Leu Lys Asp Gly Ala Leu Glu Ser Gln Asp Thr Glu Asn Val Pro
 625 630 635 640
 Val Thr Leu Ser Glu Glu Asn Arg Ser Glu Gly Lys Val Gly Phe Gln
 645 650 655
 Ala Tyr Lys Asn Tyr Phe Arg Ala Gly Ala His Trp Ile Val Phe Ile

660	665	670
Phe Leu Ile Leu Leu Asn Thr Ala Ala Gln Val Ala Tyr Val Leu Gln 675	680	685
Asp Trp Trp Leu Ser Tyr Trp Ala Asn Lys Gln Ser Met Leu Asn Val 690	695	700
Thr Val Asn Gly Gly Gly Asn Val Thr Glu Lys Leu Asp Leu Asn Trp 705	710	715
Tyr Leu Gly Ile Tyr Ser Gly Leu Thr Val Ala Thr Val Leu Phe Gly 725	730	735
Ile Ala Arg Ser Leu Leu Val Phe Tyr Val Leu Val Asn Ser Ser Gln 740	745	750
Thr Leu His Asn Lys Met Phe Glu Ser Ile Leu Lys Ala Pro Val Leu 755	760	765
Phe Phe Asp Arg Asn Pro Ile Gly Arg Ile Leu Asn Arg Phe Ser Lys 770	775	780
Asp Ile Gly His Leu Asp Asp Leu Leu Pro Leu Thr Phe Leu Asp Phe 785	790	795
Ile Gln Thr Leu Leu Gln Val Val Gly Val Val Ser Val Ala Val Ala 805	810	815
Val Ile Pro Trp Ile Ala Ile Pro Leu Val Pro Leu Gly Ile Ile Phe 820	825	830
Ile Phe Leu Arg Arg Tyr Phe Leu Glu Thr Ser Arg Asp Val Lys Arg 835	840	845
Leu Glu Ser Thr Thr Arg Ser Pro Val Phe Ser His Leu Ser Ser Ser 850	855	860
Leu Gln Gly Leu Trp Thr Ile Arg Ala Tyr Lys Ala Glu Glu Arg Cys 865	870	875
Gln Glu Leu Phe Asp Ala His Gln Asp Leu His Ser Glu Ala Trp Phe 885	890	895
Leu Phe Leu Thr Thr Ser Arg Trp Phe Ala Val Arg Leu Asp Ala Ile 900	905	910
Cys Ala Met Phe Val Ile Ile Val Ala Phe Gly Ser Leu Ile Leu Ala 915	920	925
Lys Thr Leu Asp Ala Gly Gln Val Gly Leu Ala Leu Ser Tyr Ala Leu 930	935	940
Thr Leu Met Gly Met Phe Gln Trp Cys Val Arg Gln Ser Ala Glu Val 945	950	955
Glu Asn Met Met Ile Ser Val Glu Arg Val Ile Glu Tyr Thr Asp Leu 965	970	975

Glu Lys Glu Ala Pro Trp Glu Tyr Gln Lys Arg Pro Pro Pro Ala Trp
 980 985 990

Pro His Glu Gly Val Ile Ile Phe Asp Asn Val Asn Phe Met Tyr Ser
 995 1000 1005

Pro Gly Gly Pro Leu Val Leu Lys His Leu Thr Ala Leu Ile Lys Ser
 1010 1015 1020

Gln Glu Lys Val Gly Ile Val Gly Arg Thr Gly Ala Gly Lys Ser Ser
 1025 1030 1035 1040

Leu Ile Ser Ala Leu Phe Arg Leu Ser Glu Pro Glu Gly Lys Ile Trp
 1045 1050 1055

Ile Asp Lys Ile Leu Thr Thr Glu Ile Gly Leu His Asp Leu Arg Lys
 1060 1065 1070

Lys Met Ser Ile Ile Pro Gln Glu Pro Val Leu Phe Thr Gly Thr Met
 1075 1080 1085

Arg Lys Asn Leu Asp Pro Phe Asn Glu His Thr Asp Glu Glu Leu Trp
 1090 1095 1100

Asn Ala Leu Gln Glu Val Gln Leu Lys Glu Thr Ile Glu Asp Leu Pro
 1105 1110 1115 1120

Gly Lys Met Asp Thr Glu Leu Ala Glu Ser Gly Ser Asn Phe Ser Val
 1125 1130 1135

Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala Ile Leu Arg Lys Asn
 1140 1145 1150

Gln Ile Leu Ile Ile Asp Glu Ala Thr Ala Asn Val Asp Pro Arg Thr
 1155 1160 1165

Asp Glu Leu Ile Gln Lys Lys Ile Arg Glu Lys Phe Ala His Cys Thr
 1170 1175 1180

Val Leu Thr Ile Ala His Arg Leu Asn Thr Ile Ile Asp Ser Asp Lys
 1185 1190 1195 1200

Ile Met Val Leu Asp Ser Gly Arg Leu Lys Glu Tyr Asp Glu Pro Tyr
 1205 1210 1215

Val Leu Leu Gln Asn Lys Glu Ser Leu Phe Tyr Lys Met Val Gln Gln
 1220 1225 1230

Leu Gly Lys Ala Glu Ala Ala Ala Leu Thr Glu Thr Ala Lys Gln Arg
 1235 1240 1245

Trp Gly Phe Thr Met Leu Ala Arg Leu Val Ser Asn Ser
 1250 1255 1260

<210> 539
 <211> 10
 <212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 539

Cys Leu Ser His Ser Val Ala Val Val Thr
1 5 10

<210> 540

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 540

Ala Val Val Thr Ala Ser Ala Ala Leu
1 5

<210> 541

<211> 14

<212> PRT

<213> Homo sapiens

<400> 541

Leu Ala Gly Leu Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu
5 10

<210> 542

<211> 15

<212> PRT

<213> Homo sapiens

<400> 542

Thr Gln Val Val Phe Asp Lys Ser Asp Leu Ala Lys Tyr Ser Ala
5 10 15

<210> 543

<211> 12

<212> PRT

<213> Homo sapiens

<400> 543

Phe Met Gly Ser Ile Val Gln Leu Ser Gln Ser Val
5 10

<210> 544

<211> 18

<212> PRT

<213> Homo sapiens

<400> 544

Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu Lys Phe

5

15

```
<210> 545
<211> 18
<212> PRT
<213> Homo sapiens
```

<400> 545
Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val Tyr Leu Ala
 5 10 15

```
<210> 546
<211> 29
<212> PRT
<213> Homo sapiens
```

<400> 546
Phe Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg Ala Glu Pro Gly
 5 10 15

Thr Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg Met
20 25

```
<210> 547
<211> 58
<212> PRT
<213> Homo sapiens
```

<400> 547
Val Ala Glu Glu Ala Ala Leu Gly Pro Thr Glu Pro Ala Glu Gly Leu
5 10 15

Ser Ala Pro Ser Leu Ser Pro His Cys Cys Pro Cys Arg Ala Arg Leu
20 25 30

Ala Phe Arg Asn Leu Gly Ala Leu Leu Pro Arg Leu His Gln Leu Cys
35 40 45

Cys Arg Met Pro Arg Thr Leu Arg Arg Leu
50 55

```
<210> 548
<211> 18
<212> PRT
<213> Homo sapiens
```

BNSDOCID: <WO 0134802A2 I >

200

5

10

15

Glu Cys

<210> 549

<211> 18

<212> PRT

<213> Homo sapiens

<400> 549

Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg
5 10 15

Gln Ala

<210> 550

<211> 14

<212> PRT

<213> Homo sapiens

<400> 550

Ser Asp His Trp Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe
5 10

<210> 551

<211> 11

<212> PRT

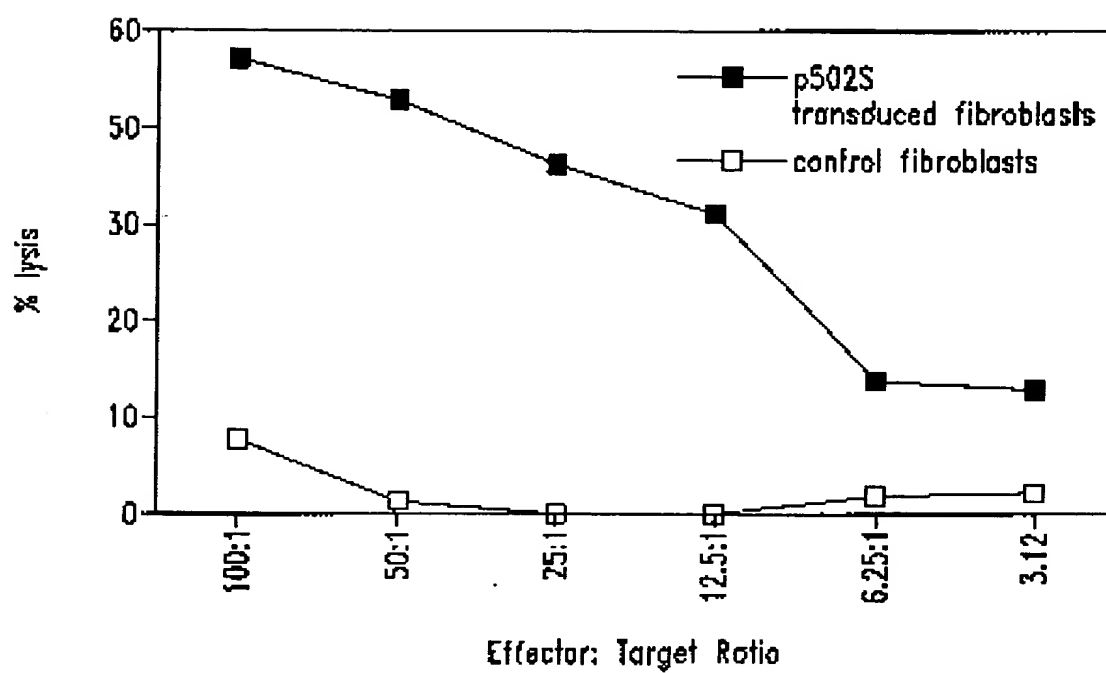
<213> Artificial Sequence

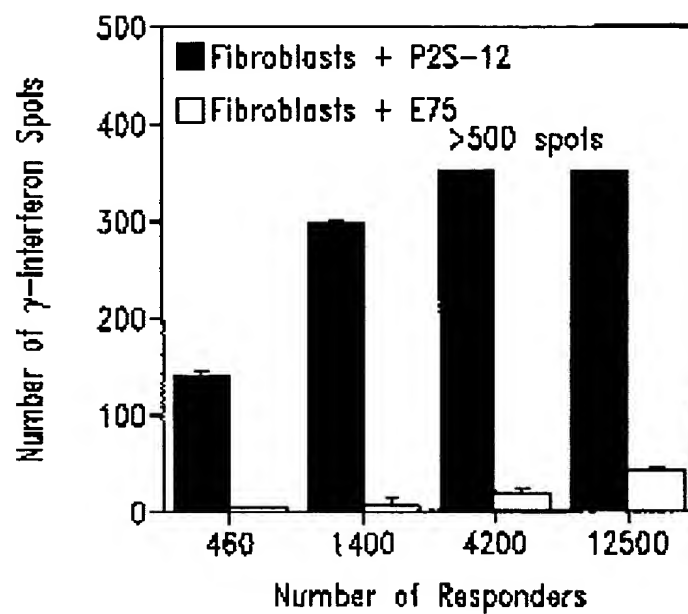
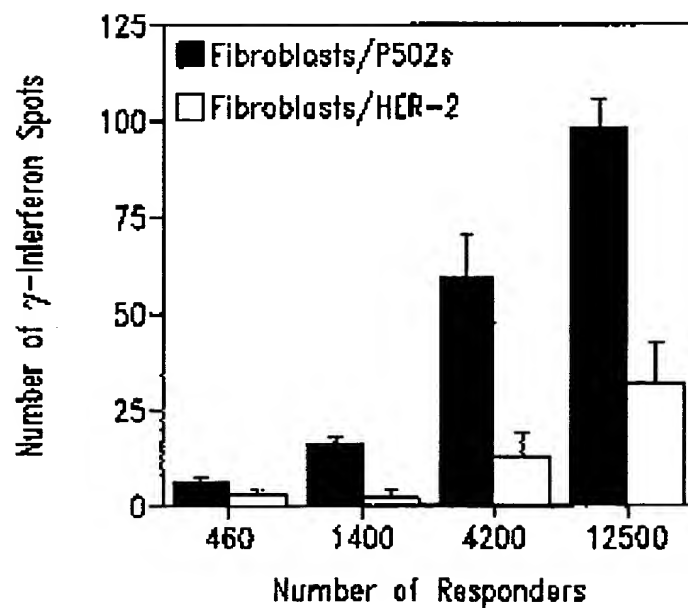
<220>

<223> Made in a lab

<400> 551

Phe Asp Lys Ser Asp Leu Ala Lys Tyr Ser Ala
1 5 10

*Fig. 1*

*Fig. 2A**Fig. 2B*

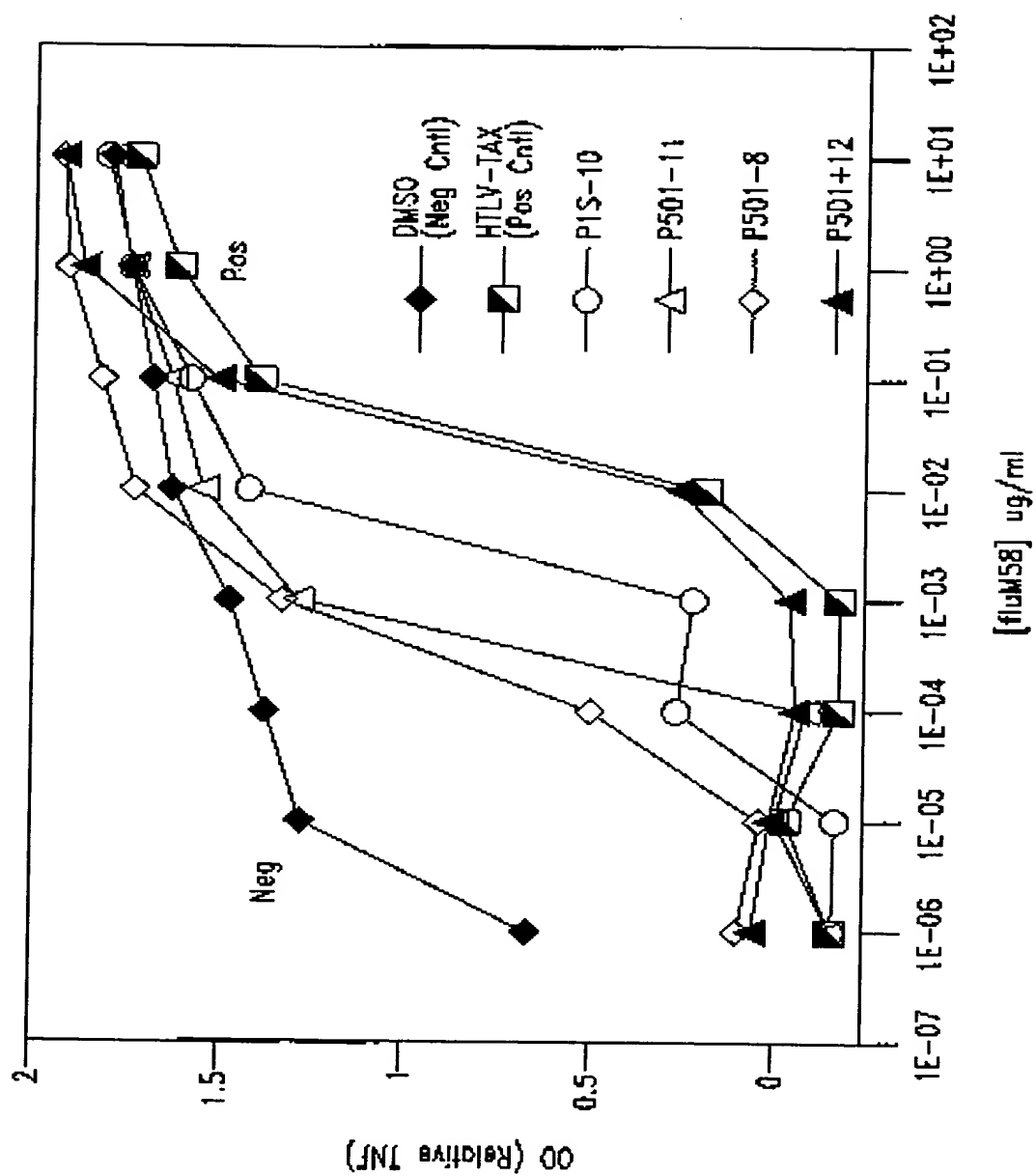
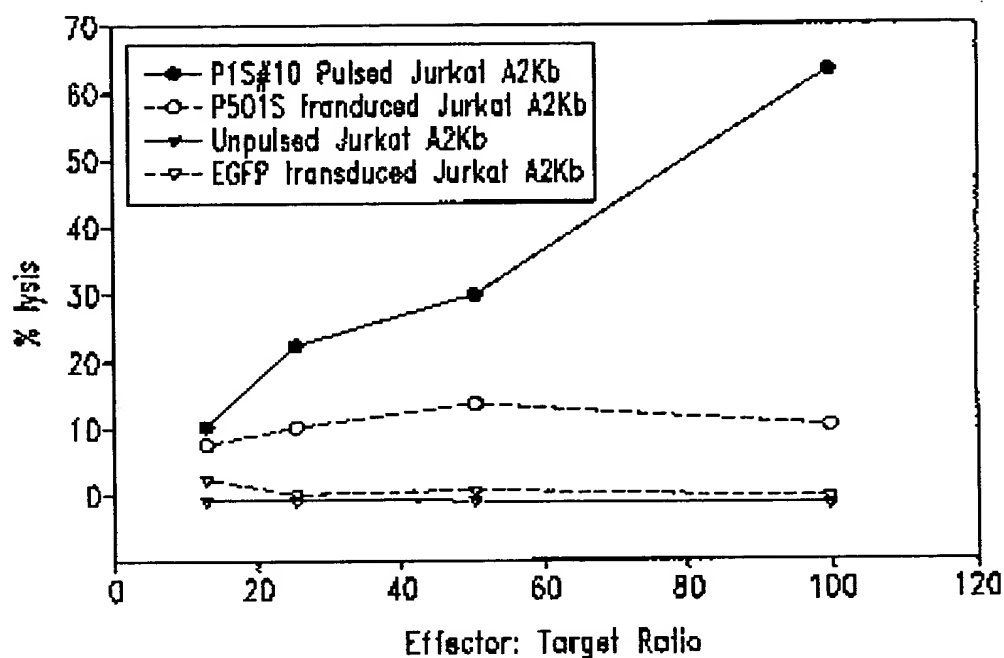
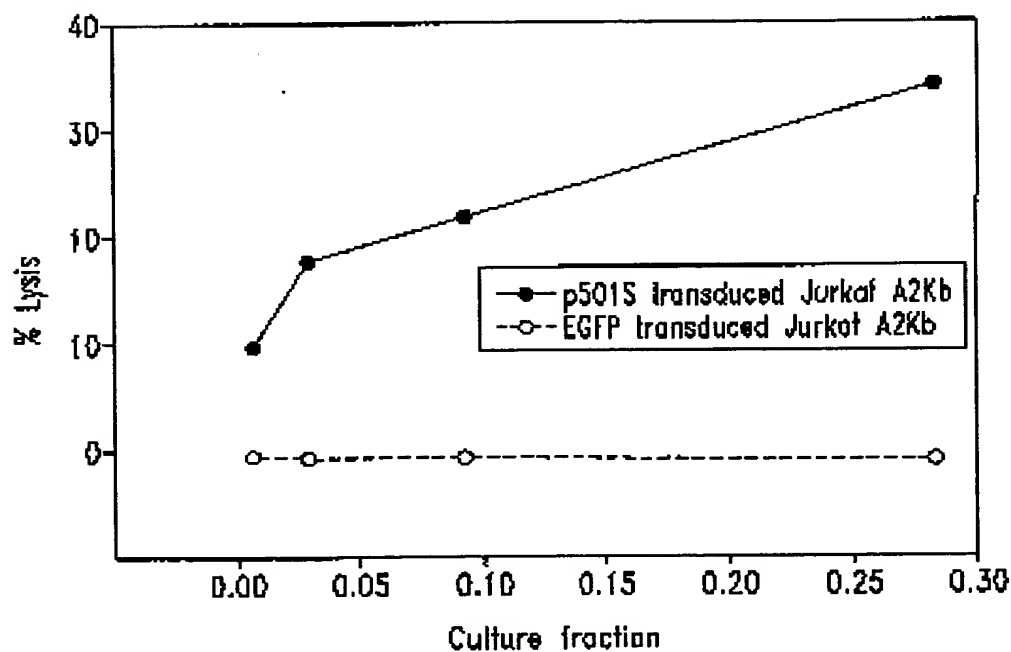
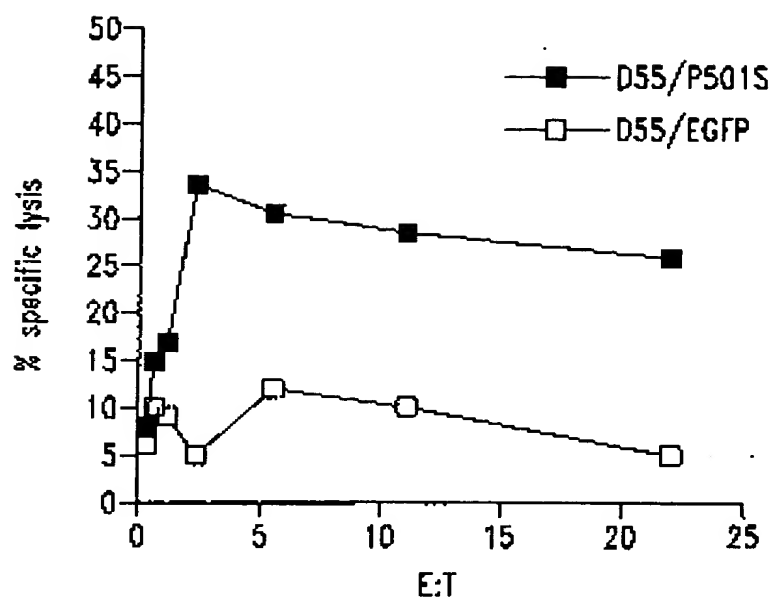
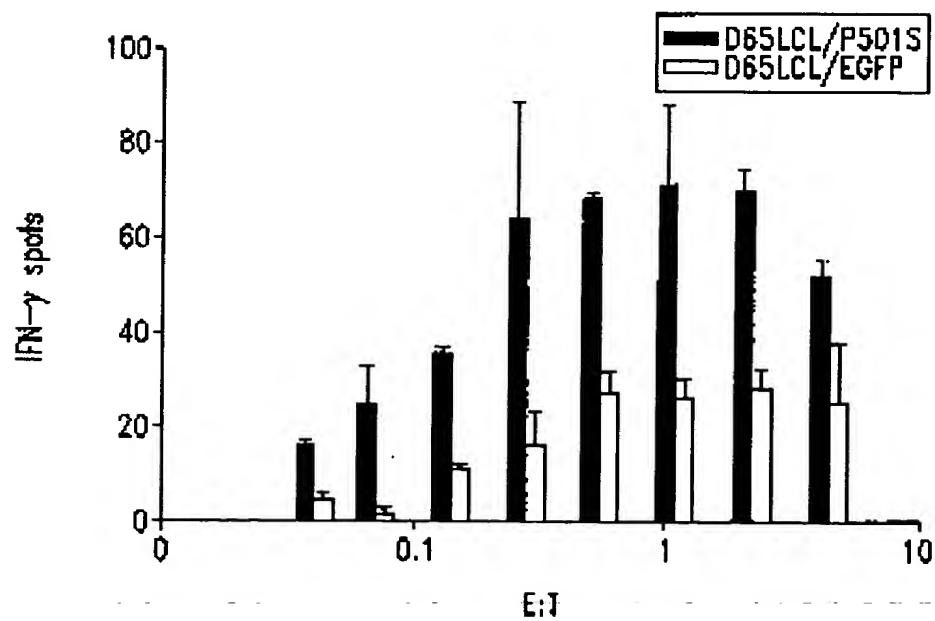
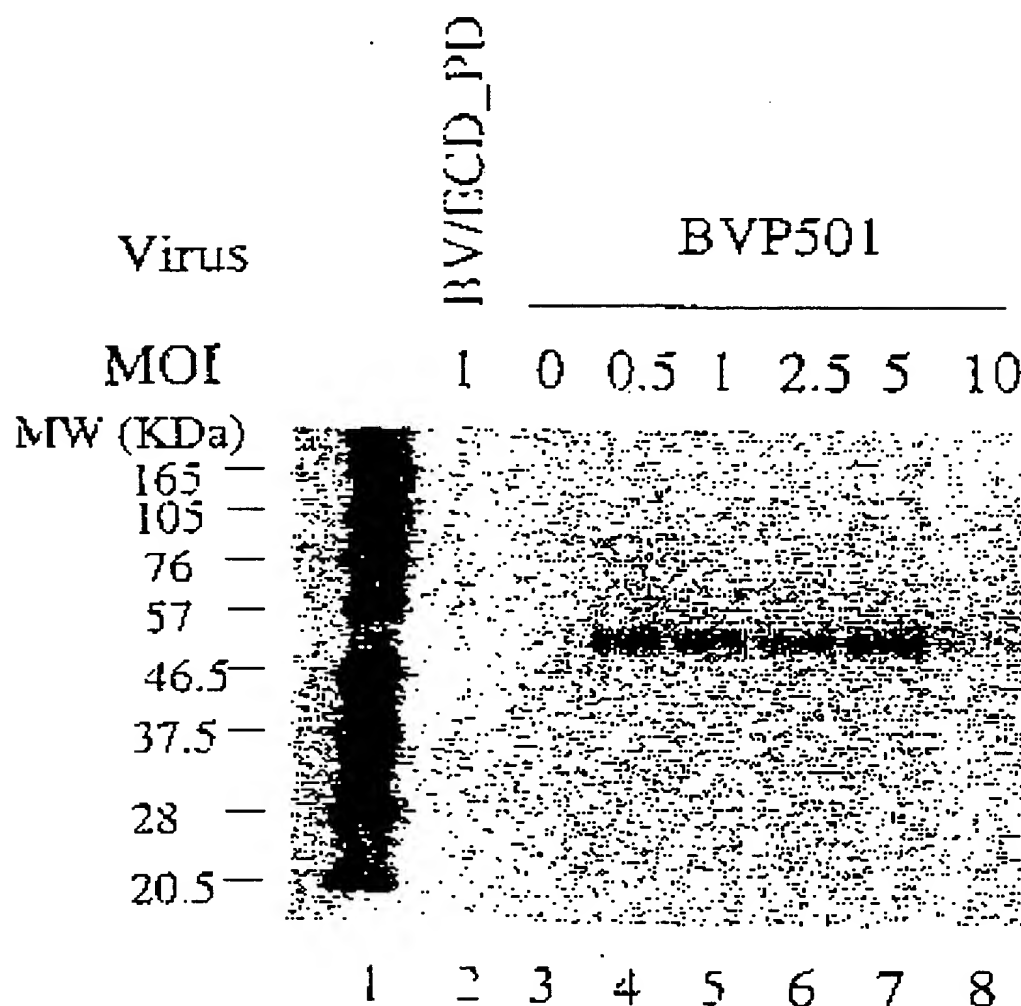


Fig. 3

*Fig. 4**Fig. 5*

*Fig. 6A**Fig. 6B*

Expression of P501S by the Baculovirus Expression System



0.6 million high 5 cells in 8-well plate were infected with an unrelated control virus BV/ECD_PD (lane 2), without virus (lane 3), or with recombinant baculovirus for P501S at different MOIs (lane 4 - 8). Cell lysates were run on SDS-PAGE under the reducing conditions and analyzed by Western blot with a monoclonal antibody against P501S (P501S-10E3-G4D3). Lane 1 is the biotinylated protein molecular weight marker (BioLabs).

Fig. 7

Figure 8. Mapping of the epitope recognized by 10E3-G4-D3

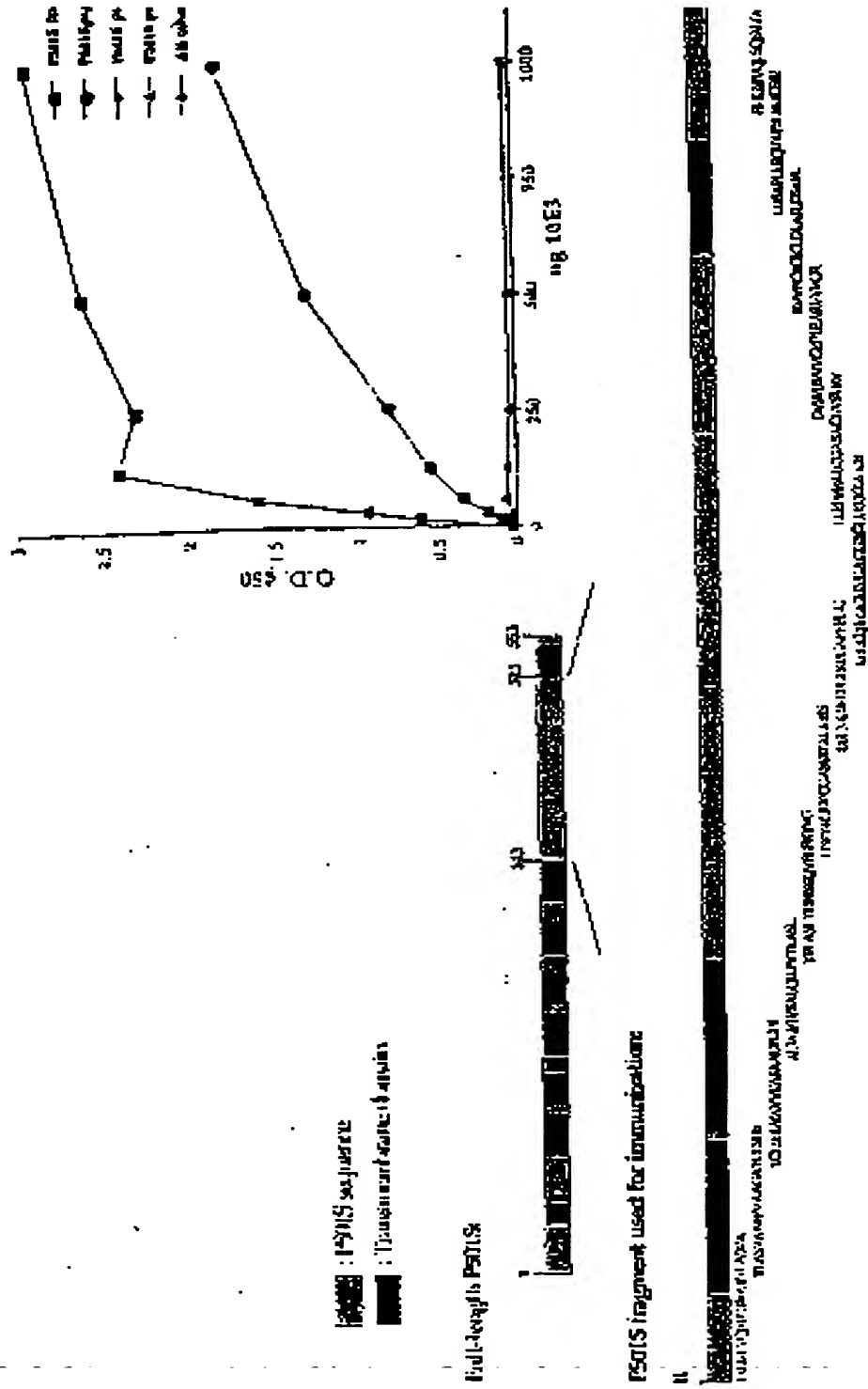


Fig. 8

Schematic of P501S with predicted
transmembrane, cytoplasmic, and extracellular regions

MVQRIWVSRLLRHK AQLLLVNLLTFGLEVCLAAGIT YVPPLLLEVGVEEKFM
TMVLGIGPVLGLVCYPLIGSAS

DHWGRYGRRRP FIWALSLGILLSLFLIPAGWL AGLLCPDRPLE LALLILGVGLLDFCGQVCFTPL
FALLSDFRDPDHCRO AYSVYAFMISLGGCLGYLLPAI DWDTSALAPYLGTQEE

CLFGLLTILFLTCVAATILV AEEAALGPTPEAEGLSAPSLSPHCCPCRARLA AFRNLGALLPRI

HQICCRMPRTLRR LFVAELCSWMALMTFTLFYTDF VGEGLYQGVPRAPGTEARRHYDEGVR

MGSLGLFLQCAISLVFSLVM DRLVQRFGTRAVVLAS VAAFPVAAGATCLSHSVAVVTA SAA

LTGFTFSALQILPYTLASI Y HREKQVFLPKYRGDTGGASSEDSLMTSFLPGPKPGAPFPNGHVGAGGSGL

LPPPPALCGASACDVSVRVVVGEPTEARVVPGRG ICLDLAILD SAFLLSQVAPSLF MGSIVQLSQS

VTAYMVSAAGLGLVAIYFAT QVVFQKSDLAKYSA

Underlined sequence: Predicted transmembrane domain; Bold sequence:
Predicted extracellular domain; *Italic sequence*: Predicted intracellular
domain. Sequence in bold/underlined: used generate polyclonal rabbit
serum

Localization of domains predicted using HMMTOP (G.E. Tusnady and I. Simon
(1998) Principles Governing Amino Acid Composition of Integral Membrane
Proteins: Applications to topology Prediction. J.Mol Biol. 283. 489-506.

Fig. 9

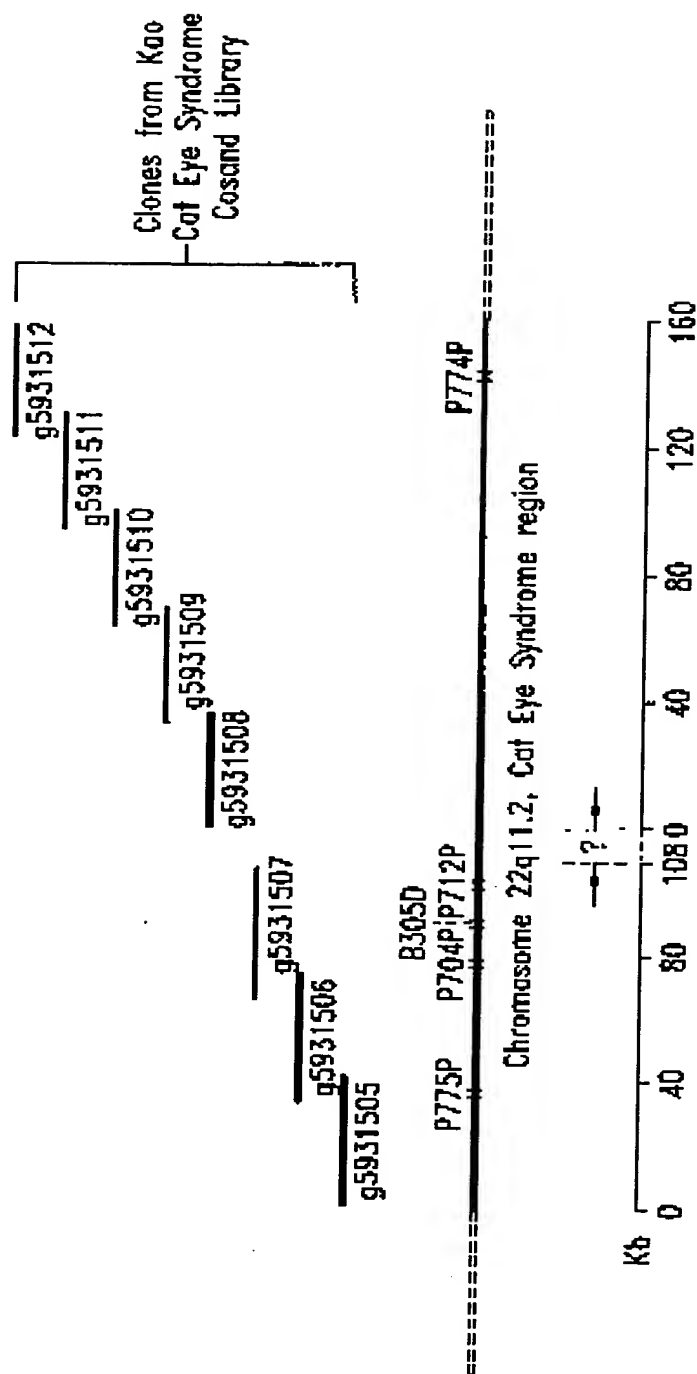


Fig. 10

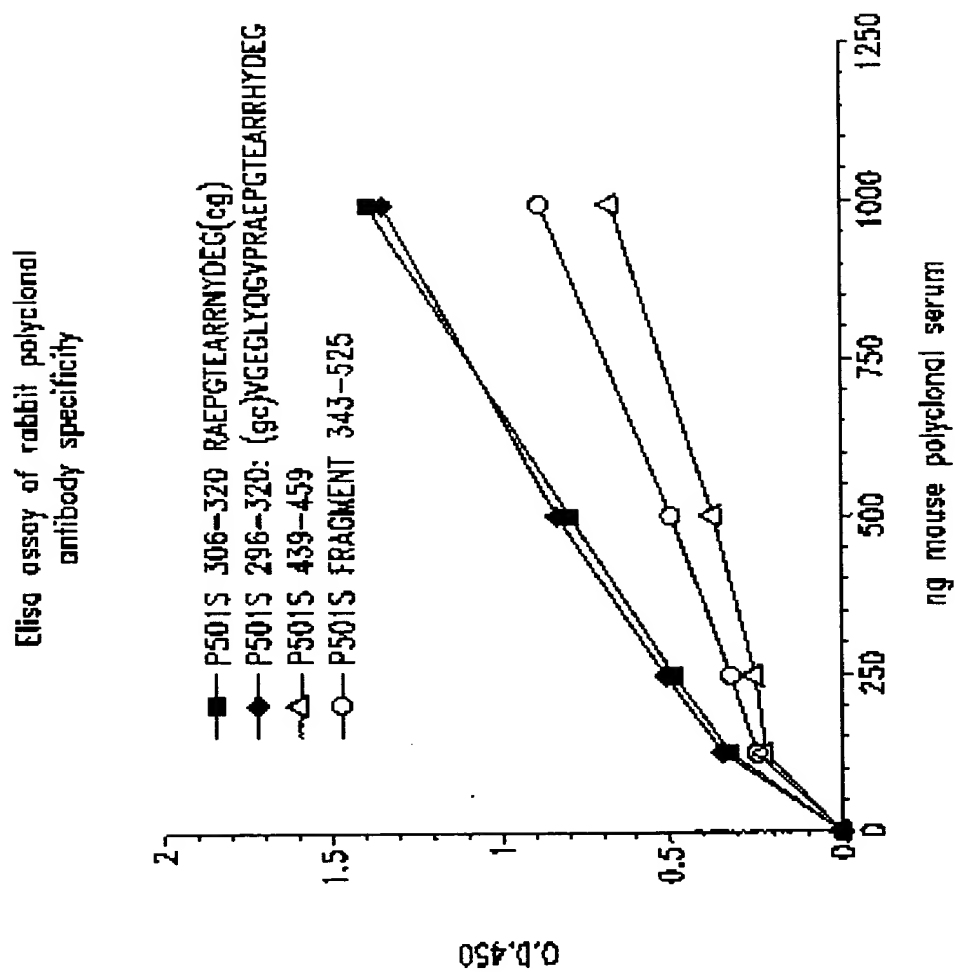


Fig. 11

SEQUENCE LISTING

<110> Corixa Corporation
 Xu, Jiangchun
 Dillon, Davin C.
 Mitcham, Jennifer L.
 Harlocker, Susan Louise
 Jiang Yuqiu
 Reed, Steven G.
 Kalos, Michael
 Fanger, Gary
 Retter, Mark
 Solk, John
 Day, Craig
 Skeiky, Yasir A.W.
 Wang, Aijun

<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
 DIAGNOSIS OF PROSTATE CANCER

<130> 210121.42720PC

<140> PCT

<141> 2000-11-09

<160> 551

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 814

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> [1]...[814]

<223> n - A,T,C or G

<400> 1

tttttttttt	tttttcacag	tataacagct	ctttatttct	gtgagttcta	ctagymaatc	60
atcaaatctg	agggttgtct	ggaggacttc	aatacacctc	cccccctagt	gaatcagctt	120
ccaggggggtc	cagtcacctc	acttacttca	tcacctatcc	atgccaaagg	aagacctcc	180
ctccttggtc	cacagccttc	tctaggcttc	ccagtgcctc	caggacagag	tgggttatgt	240
tttcagctcc	atccttgcctg	tgagtgtctg	gtgcgtttgtg	cttcacactc	ctgctcagtg	300
cttcctgggc	agtgtccagc	acatgtcaut	ctccactctc	tcagtgtgga	tcactagtt	360
ctagagcggc	cggcaccgag	gtggagcttc	agcttttgtt	cccttttagtg	agggttaatt	420
ggcgctttgg	cgtaatcatg	gtcataactg	tttctgtgt	gaaattgtta	tcgcctcaca	480
attccacaca	acatacagagc	cggaagcata	aagtgtaaag	cctgggqlgc	ctaattgagt	540
anctaaactca	cattaattgc	gttgcgtcca	ctgncctctc	tcnagtcnng	aaaactgtcg	600
tgccagctgc	attaatgaat	cggccaacgc	ncggggaaaa	ggggtttgcg	ttttgggggc	660
tcttcagctt	ctcgctcaat	nantcctgcg	ctcggtcctt	cggctgcggg	gaacqgtatc	720
actcctcaaa	ggnggtatta	cggttatccn	naaatcnngg	gataccnngg	aaaaaanttt	780
aacaaaaggg	cancaagggg	cnqaaacgta	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 2

acagaaatgt	tggatgggtgg	agcacctttc	tatacgaactt	acaggacagc	agatggggaa	60
ttcatggctg	ttggagcaat	agaaccccag	ttctaogagc	tgctgatcaa	aggacttggg	120
ctaaagctctg	atgaacttcc	caatcagatg	agcatggatg	attggccaga	aatgaagaag	180
aagtttgcag	atgtatttgc	aaagaagacg	aaggcagagt	ggtgtcaaat	ctttgacggc	240
acagatgoot	gtgtgaactcc	ggttctgaact	tttgaggagg	ttgttcatca	tgatcacaac	300
aaggaaoggg	gctcggttat	caccagttag	gagcaggacg	tgagcccccg	ccctgcacct	360
ctgctgttaa	acaccccagc	cataccttct	ttcaaaaagg	atccactagt	tctagaagcg	420
gcgcacccg	cggtaggact	ccagcttttg	ttccctttag	tgagggttaa	ttgcggcgtt	480
ggcgtaataca	tggatcatagc	tgtttctctg	gtgaaattgt	tatccgctca	caattccccc	540
aacataogag	cgggaacata	aagtgttaag	cctgggggtgc	ctaagtantg	agctaactcn	600
catlaattgc	gcttgcgtca	ctgcccgttt	tcaagtccgg	aaaactgtcg	tgccactgcn	660
ttantgaatc	ngccaccccc	cgggaaaagg	cgggtgcctt	ttgggcctct	tccgctttcc	720
togctcattg	atcctngcnc	cgggtcttcg	gctgoggnga	acggttcaact	cctcaaaggc	780
ggtntnccgg	ttatccccaa	acngggggata	ccnga			816

<210> 3

<211> 773

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(773)

<223> n = A,T,C or G

<400> 3

cttttgaaaag	aagggtatggc	tgggtgtgtt	aacagcagag	gtgcaggggc	ggggctcaog	60
tcttgcctct	cactggtgat	aaacagagccc	cgttccctgt	tgtgatcatg	atgaacaacc	120
tctcacaag	tcagacccgg	agt/acacag	gcctctgtgc	cgtcaagat	ttgacacac	180
tctgccttcg	tcttctttgc	aaatacactc	gcaacttct	tcttcatctt	tggccaatca	240
tccatgcctca	tctgattggg	aagttcatca	gacttttagtc	canntccttt	gatcagcagc	300
tcttagaact	gggttcttat	tgtccaaca	gccatgaatt	ccccatctgc	tgtcctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgttctgtc	ctcagggggg	ggcccggtac	420
ccaattcgcc	ctatantgag	tcttattacg	cgcgtcacc	ggcgtctgtt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgcagcacat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggcccg	accgatcgcc	cttccaacag	ttgogcaact	600
gaatgggnaa	atgggacccc	cctgttaccc	ogcattnaac	ccccgcnagg	tttngttgtt	660
accccacnt	nnaccgctta	cactttgcga	ggccttanc	gcgcgtctcc	tttcmctttt	720
cttcccttcc	tttccnccn	ctttccccc	gggtttcccc	cttcaaaccc	ena	773

<210> 4

<211> 828

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(828)

<223> n = A,T,C or G

<400> 4

cctcctgagt	cctactgacc	tgtgctttct	gggtgtggagt	ccagggtctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
toggaaact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttgct	tgtggggtgc	agagatggga	gggggtggggc	ccaccttga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcctg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgctgtcct	360
gngggcactg	ggaagcctan	atnaggccgt	gagcanaaag	aaggggagga	tccactagtt	420
ctanagcggc	cgccaccgog	gtgganctcc	ancttttgtt	cccttttagtg	agggttaatt	480
gcgogcttgg	cntaatcatg	gtcatanctn	tttccctgtgt	gaaattgtta	tccgctcaca	540
atccacacac	acatacganc	cggaacata	aantgtaaac	ctgggggtgcc	taatgantga	600
ctaactcaca	ctaattgogt	tgcgctcact	gcgcgcttcc	caatcnggaa	acctgtcttg	660
ccncttgcat	tnatgaatcn	gccaaacccc	ggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttccct	cnctcantta	ntccctnccc	tcggtcattc	cggtcgnggc	aaaccgggtc	780
accnctcca	aagggggtat	tccggtttcc	ccnaatccgg	gganance		828

<210> 5

<211> 834

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(834)

<223> n = A,T,C or G

<400> 5

tttttttttt	tttttactga	tagatgggaat	ttattaagct	tttcacatgt	gatagcccat	60
agtttttaatt	gcattccaaag	taactaacaaa	aactctagca	atcaagaatg	gcagcatgtt	120
atttttataac	aatcaaacccc	tgtggctttt	aaaatttggg	tttcataaga	taattctatc	180
tgaagttaaat	ctagcccatgc	ttttaaaaaa	tgcttttaggt	cactccaagc	ttggcagtta	240
acatttggca	taaacataaa	taaaacaatc	acaatttaat	aaataacaaa	tacaacattg	300
tagggcctaa	tcatactacag	tataaggana	aggttgtagt	gttgagtaag	cagttattag	360
aatagaatac	cttggcctct	atgcaaatat	gtctagacac	tttgattcac	tcagccctga	420
cattcagttt	tcaaaagtagg	agacagggtc	tcacagtata	ttttacagtt	tccacacat	480
tgaaaaacaag	tagaaaaatga	tgagttgatt	tttatttaatt	cattacatcc	tcaagagtta	540
tcacccaaccc	ctcagttcata	aaaaattttc	aagtttatatt	agtcataata	cttgggtgtgc	600
ttattttaaa	ttagtgttaa	atggattaag	tgaagacaaac	aattggctccc	taattgtgatt	660
gatatgtgtc	attttttacca	gtttctaaat	ctnaactttc	aggtttttga	actggaacat	720
tgnatnacag	tgttccanag	ctncaacctc	ctggaaacatt	acagtggtgt	tgattcaaaa	780
tgttatttttg	ttaaaaatta	aatttttaacc	tgggtggaaa	ataatttgaa	atna	834

<210> 6

<211> 818

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(818)

<223> n = A,T,C or G

<400> 6

tttttttttt	tttttttttt	aagaccctca	tcaatagatg	gagacataca	gaaatagtca	60
aaccacatct	acaaatggcc	agtatcaggc	ggcggcctcg	aagccaaagt	gatgttttga	120
tgtaaagtga	aattattagt	ggcggatgaa	gcagatagtg	aggaaagttg	agccaataat	180
gacgtgaagt	cogtggaaag	ctgtggctac	aaaaaatgtt	gagccgtaga	tgcogtoggg	240
aatgggtgaag	ggagactcga	agtactctga	ggctcttagg	agggtaaaa	agagaccag	300

taaaaattgta	ataagcagtg	cttgaattat	ttggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaatacg	gatgtgttca	ggagtgggac	420
ttctagggga	tttagcgggg	tgatgcctgt	tgggggccag	tgccttccta	gttggggggg	480
aggggctagg	ctggagtggt	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaacttctga	540
ggtaataaat	aggattatcc	cgtatcgaag	gccttttttg	acagggtggg	tgtggtggcc	600
ttgggtatgt	ctttctctgt	ttacatcgcg	ccatcatttg	tatctggtta	gtgtgttggg	660
ttantanggc	ctantatgaa	gaacttttgg	antggaaatt	aatcaatngc	ttggcgggaa	720
gtcattanga	nggctnaaaa	ggcctgttta	ngggtctggg	ctnggtttta	ccnaccat	780
ggaatncc	ccccggacna	ntgnatccct	attcttaa			818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> {1}...{817}
 <223> n = A,T,C or G

<400> 7						
tttttttttt	tttttttttt	tggctctaga	gggggtagag	gggggtgctat	agggtaaata	60
egggccctat	tcaaaagatc	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggctgt	gtagcgggtga	180
aaagtggtttg	gttttagacgt	ccgggaattg	catctgtttt	taagcctaata	gtgggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatggggggt	tcaatcgsga	300
gtactactcg	attgtcaaat	tcaaggagtc	gcagggtgcg	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtccgt	gttctctctag	gttcaataac	420
attgggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tcaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgttaat	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggtc	tacaggacta	gaacccaat	angaaaanta	atnttaangg	660
cnttatcntn	aaaggtnata	accnctccta	tnatcccacc	caatngnatt	ccccacnccn	720
acnattggat	nccccanttc	cananaaggc	cncccccggt	tgnannccnc	cttttyttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcance			817

<210> 8
 <211> 799
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> {1}...{799}
 <223> n = A,T,C or G

<400> 8						
catttccggg	tttactttct	aaggaaagcc	gagcgggaagc	tgcataacgtg	ggaatccggtg	60
cataaggaga	actttctgct	ggcagcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	ogtcccagaa	ggtggacttg	gcactgaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagogg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggcgg	angcctganc	cgctctgect	tgcctgcccc	angtgggccc	ccacccccctg	300
acctgcctgg	gtccaaacac	tgaagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggatttttgt	cctanantaa	ggctcatctg	ggcctcggcc	ccccacccctg	gttggcccttg	420
tcttttagct	gagccccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtggt	480
ctccttaca	ccacannatg	ccgggtctcc	ccoggaaacc	antccacanc	tnggaaggat	540
caagnccctn	atccactnnt	nctanaaacgg	gcncncncgg	cngtgggaacc	cnccctntgt	600
tccctttctn	tnagggttaa	tnnccgcttg	gccttnccan	ngtccctncc	nttttccnnt	660

gttnaaattg ttangencoc	neennteocn	ennennnenan	cccgaccenn	annttannnn	720
neetgggggt neennngat	tgaccennoc	neetntant	tgenttnggg	nnenttgcce	780
cttccctctc	nggganng				799

<210> 9
 <211> 801
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(801)
 <223> n = A,T,C or G

<400> 9						
acgccttgat	cctcccaggc	tgggactggg	tctggggagg	gccgggcatg	ctgtgggttg	60
taangatgac	actcccaaa	gtgggtcctga	cagtgggcca	gatggacatg	gggctcacc	120
caaggacaag	gccaccagg	gctgggggccc	aagcccarat	gacccctact	ctatgagcaa	180
aatccctctg	gggggcttct	ccttgaagtc	cgccancagg	gctcagtctt	tggaccocag	240
cagggtcatg	gggtgtngnc	caactggggg	cncaacgca	aaanggonca	gggectcngn	300
cacccatccc	angacggggc	tacactnctg	gaccccccnc	tccaccactt	tcacgcgctg	360
ttctaccccg	cgatntgttc	ccanctgttt	cngtgcenac	tcacacttct	nggacgtgcg	420
ctacatacgc	ccggantcnc	notcccgctt	tgtercctatc	cacgtncocn	caacaaaatt	480
cnccntantg	cacnattcc	cacnttttnc	agntttccnc	nnccngcttc	cttntaaaag	540
ggttganccc	cggaaaaatc	ccccaaagg	ggggggccng	taccccaactn	ccccctnata	600
gctgaantcc	ccatnaccnn	gnotcnatgg	anccntccnt	tttaannacn	ttctnaactt	660
gggaananc	ctcgncntn	cccccnttaa	tcccnccctg	cnangnnccn	cccccnntcc	720
ccccnnntng	gentntnann	cnaaaaagg	ccnnnancaa	tctcctnnon	cctcacttgc	780
ccanccctcg	aaatcgccn	c				801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10						
cagtcctatnt	ggccagtgtg	gcagctttcc	ctgtggctgc	gggtggcaca	tgccctgtccc	60
acagtgtggc	ctgtgtgaca	gcttcagccg	ccctcaccgg	gttcaccttc	tcagccctgc	120
agatccctgcc	ctacacactg	gcctccctct	accccccggg	gaagcagggtg	ttcctgccca	180
aataccgagg	ggacactgga	ggtgctagca	gtgaggacag	cctgatgacc	agcttccctgc	240
caggccctaa	gcttgagct	cccttcctta	atggacacgt	gggtgtctga	ggcagtggcc	300
tgtcccccac	tccaccogcg	ctctgogggg	ccctctgctg	tgatgtctcc	gtacgtgtgg	360
tggtgggtga	gccacccgan	gccagggtgg	ttccgggccc	gggcctctgc	ctggacctcg	420
ccatccctga	tagtgtctcc	tgtgttccca	ngtggtccca	tccctgttta	tgggctccat	480
tgctccagctc	agccagtctg	tcactgctta	tatgggtgtc	gcgcagggcc	tgggtctggg	540
ccattttact	ttgtacaca	gggtantatt	gacaagaacg	antggcccaa	atactcagcg	600
ttaaaaaatt	ccagcaacat	tgggggtgga	aggcctgcct	cactgggtcc	aactccccgc	660
tctgtttaac	cccatggggc	tgcoggtctg	gcgcaccaat	tctgttgcctg	ccaaantnct	720
gtggctctct	gctgccacct	gttgtgtggc	gaagtgcnta	cngcncanct	nggggggtng	780
ggngttccc						789

<210> 11
 <211> 772

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(772)
<223> n = A,T,C or G

<400> 11

cccacccctac	ccaaatatta	gacacccaaca	cagaaaaagct	agcaatggat	tcccttctac	60
tttgttaaat	aaataagtta	aataattttaa	tgccctgtgtc	tctgtgatgg	caacagaagg	120
accaacaggg	cacatcctga	taaaaggtaa	gaggggggtg	gacagcaaa	aagacagtgc	180
tgtgggctga	ggggacctgg	ttcttggtgt	ttgccccca	ggactcttcc	cctacaaata	240
actttcatat	gttcaaatcc	catggaggag	tgtttcatcc	tagaaactcc	catgcaagag	300
ctacattaaa	cgaagctgca	ggttaagggg	cttanagatg	ggaaaccagg	tgactgagtt	360
tattcagctc	ccaasaaacc	ttctctaggt	gtgtctcaac	taggaggcta	gctgttaacc	420
ctgagcctgg	gtaatccacc	tcagagctcc	cgcattcca	gtgcatggaa	cccttctggc	480
ctccctgtat	aagtccagac	tgaacccccc	ttgggaaggnc	tccagtcagg	cagccctana	540
aactggggga	aaaagaaaaa	gagggcccaan	ccccagctg	tgcactaacg	cacctcaaga	600
gracaggggtg	gcagcraaaa	aaccacttta	ctttggcaca	aacaaaaact	ngggggggca	660
accccggcac	cccnangggg	gttaacagga	ancngggnaa	ontggaaacc	aattnaggca	720
ggcccnccac	ccnaatnttc	gttgggaat	tttctctccc	ctaaattttt	tc	772

<210> 12
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(751)
<223> n = A,T,C or G

<400> 12

gccccaatte	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaacccctc	tacttttttg	tcgtgagcct	tttgcttggg	gcagggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atcogtatag	ttggtgaagc	caagcaactt	gagccctttc	240
atggtgggtg	tccacacttg	agtgaagctc	tcctgggaac	cataactctt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acaettgtct	tcagtcttan	caccatanca	gccctgaaa	accaananca	aagaccacna	480
cncoggtgtc	gatgaagaaa	tnaccccnog	tgacaaact	tgcatggcac	tggganccac	540
agtggccnna	aaaatctttca	aaaagggtgc	cccatcnatt	gaacccccaa	atgcccactg	600
ccaacagggg	ctgccccca	cnchnnaacya	tgancnatt	gnacaagatc	tncttggtct	660
tnatnaacnt	gaacctgcn	tngtggctcc	tgttcaggnc	cnnggcctga	cttctnaann	720
aangaactcn	gaagncccca	cnngganann	g			751

<210> 13
<211> 729
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(729)
<223> n = A,T,C or G

<400> 13

gagccaggcg	ccccctctgcc	tgcccactca	gtggaacac	ccgggagctg	ttttgtcctt	60
tgtggancct	cagcagtncc	ctctttcaga	actcancgcc	aaganccttg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtggtg	cagccctggt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcctccttt	240
ctgaagatct	tcggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgag	ccggcgctgt	ggtcttagct	ctaggtttcc	tgggtgtcta	tgggtgctaag	360
actgagagca	agtgtgccc	ogtgaogttc	ttcttcaccc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgtgtgtgtc	gccttggtgt	acaccccaat	ggctgagcac	ttcctgcagt	480
tgtgtgtaat	gcctgccttc	aanaaaagat	tatgggttcc	caggaaact	tcactcaagt	540
gttggaacac	caccatgaaa	gggtcraagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaaanagt	octttccccc	atctctgttg	caattgacaa	660
acgtccccaa	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtcc	ccaaccanaa	720
attnaaggg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (816)

<223> n = A,T,C or G

<400> 14

tgtcttctct	caaaagttgtt	cttgttgcca	taacaaccac	cataggtaaa	gcggggcgag	60
tgttcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgcagag	tcctgtgtct	120
ggcagggtcca	cgagtgccc	tttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaag	180
ccactcgtgt	atcttttcara	ggcagcctcg	tcogacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaaactgtc	natgcagcag	ccattgctgc	agcggaaactg	ggtgggtgta	300
cangtgccag	agcacactgg	atgggcctt	tcctggnan	gggccttng	ggaaagtccc	360
tganccccan	anctgcctct	caaaagcccc	accttgccca	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaggttag	ttnttcttgt	tgcacaaac	ancccontaa	acaaactctt	480
gcantatctgc	tcgnggggg	tcttantacc	anogtgggaa	aagaacccca	ggcngcgaa	540
caantctgtt	tggatnccga	gcataatct	ncntttctgc	tgggtggaca	gcacccantna	600
ctgtnnanct	ctagnccttg	gtcctcctgg	gttgnncttg	aacctaaten	cnnctcaact	660
gggacaaggt	aantngccnt	cctttnaatt	cccnanctn	ccccctggct	tgggggtttt	720
cnctctcta	ccccagaaan	ncogtgttcc	cccccaacta	ggggccnaaa	cnncttnttc	780
caacaacctn	ccccacccac	gggttcngnt	ggttng			816

<210> 15

<211> 783

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (783)

<223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	nacttgaagg	tacbaaccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagattgg	cgccactgct	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	ctgtggggac	tcagggaang	cacctacctg	ttccagctga	180
cagtgaactg	ctcagaccac	ccagaggacc	cggcccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	ccaacaangt	gggtcgctgc	cggggctctt	300
tcccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360

```

gcttggggcaa caagaacaaac taccttcggg aagaagagtg cttcttance tgtcnggggtg 420
tgcaagggtgg gcctttgana ngcanctctg gggctcangc gactttcccc cagggccccc 480
ccatggaaag gcgccatccc ntgttctctg gcacctgtca gccaccrag ttcgctgca 540
ncaatggctg ctgcatonac anttctctng aattgtgaca acacccccca ntgcccccaa 600
ccctcccaac aaagcttccc tgttnaaaaa tacnccantt ggcttttnac aaacnccogg 660
cnctccntt ttcccccmtn aacaaagggc nctngcnttt gaactgcccn aacccnggaa 720
tctnccingg aaaaantncc cccctgggtt cctnnaance cctccncaa antncccc 780
ccc

```

```

<210> 16
<211> 801
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (801)
<223> n = A,T,C or G

```

```

<400> 16
gccccaatte cagctggcac accaccccag gtgactgcct tagttcggat gtcatacaaa 60
agctgattga agcaaccctc taacttttgg tcttgagcct tttgcttggg gcaggctctc 120
ttggctgtgt tggatgaagt gtcattgcaa cagaatgggg gaaaggcact gttctctttg 180
aagtagggtg agtccctcaa atccgtatag ttgggtgaag cacagcactt gagcccttcc 240
atggtggtgt tccacacttg agtgaagtct tccctgggaa catactctt ctctgatggc 300
ggcactacca gcaacgtcag gaagtgtctc gccattgtgg tgtacaccaa ggcgaccaca 360
gcagctgcaa cctcagcaat gaagatgagg aggaggatga agaagaaagt cnogagggca 420
cactgtctct ccgtctttag accatagcag cccangaaac caagagcaan gaccacaacc 480
ccnctgcgga atgaagaaaa ntacccacgt tgacaaactg catggccact ggacgacagt 540
tggcccgaaan atcttcagaa aagggatgac ccatcgattg aacacccana tgcctactgc 600
cnacagggct gcnccnccn gaaagaatga gccattgaag aaggatcttc ntggctctta 660
tgaactgaaa ccttgcatgg tggccctctg tcagggtctt tggcagtgaa ttctganaaa 720
aaggaaacngc ntnagcccc ccaaangana aaacaccccc gggtgttgcc ctgaattggc 780
ggccaaggan cctgcccncn g
801

```

```

<210> 17
<211> 740
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (740)
<223> n = A,T,C or G

```

```

<400> 17
gtgagagcca gggctccctc tgcctgcaca ctcagtggca acaccogggg gctgttttgt 60
cctttgtgga gcttcagcag ttccctcttt cagaactcac tgccaagagc cctgaacagg 120
agccaccatg cagtgtctta gcttcattaa gaccatgatg atcctcttca atttgcctat 180
ctttctgtgt ggtgcagccc tgttggcagt gggcatctgg gtgtcaatcg atggggcctc 240
ctttctgaag atcttcgggc cactgtctgc cagtgccatg cagtttgtca acgtgggcta 300
cttctctcct gcagccggcg ttgtggtctt tgccttgggt ttcctgggct gctatgggtc 360
taagacggag agcaagtgtg cctcgtgac gttcttcttc atcctctctc tcatcttcat 420
tgctgaagtc gcagctgctg tggctgcctt ggtgtacacc acaatggctg aaccattcct 480
gacgttgctg gtantgctg ccataaanaa agattatggg ttcccaggaa aaattcactc 540
aanttgga caccnccatg aaaagggtc caattctctg tggcttccc aactataccg 600
gaattttgaa agantcncct tacttccaaa aaaaaanant tgccttttnc cccnttctgt 660
tgcaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggntcncaaa 720

```

caaaaaaant nnaaggggttn

740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(802)
 <223> n - A,T,C or G

<400> 18
 ccgctgggttg cgtggtgcca gngnagccac gaagcagctc agcatacaca ggcctcaatca 60
 caaggtcttc cagctgcgcg acattacgca gggcaagagc ctccagcaac actgcataatg 120
 ggatacaactt tacttttagca gccaggggtga caactgagag gtgtcgaagc ttattctctct 180
 gagctctctgt tagtggagga agattccggg cttcagctaa gtagtccagcg tatgtcccat 240
 aagcaaacac tgtgagcagc cgggaaggtag aggcaaaagtc actctcagcc agctctctata 300
 cattgggcat gtccagcagt tctccaaaca cgtagacacc agngggctcc agcaactgat 360
 ggatgagtggt ggcacagcgt gccccccttg cgcacttggt taggagcaga aattgctcct 420
 ggttctgccc tgtcaccttc acttccgcac tcatcactgc actgagtgtg ggggacttgg 480
 gctcaggatg tccagagacg tgggtccgcc cectcnetta atgacaccgn ccanncaacc 540
 gtcggctccc gccagantgng ttogtctgnc ctgggtcagg gtctgtctgg cnetacttgc 600
 aactctctgc nggcccatgg aattcaacnc accggaactn gtangatcca ctnttcttat 660
 aaccggncgc caccgcnntt ggaactccac tcttntncc ttacttgag ggttaaggtc 720
 accctttnng ttaccttggc ccaaacctn centgtgtog anatngtnaa tcnggnccna 780
 tncacncnc atangaagcc ng 802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n - A,T,C or G

<400> 19
 cnaagcttcc aggtnacggg ccgnaaanc tgacccnagg tancanaang cagnncgagg 60
 gagccacccg tcaegnngng gngtctttat oggagggggc ggagccacat cnetggant 120
 cntgaacccc actcccncc ncncantgca gtgatgagtg cagaactgaa ggtnacgtgg 180
 caggaaccaa gancaaannc tgetccnntc caagtccgcn nagsgggcgg ggtggccac 240
 gmcatecnt cnagtgtgtn aaagcccnnc cctgtctact tgtttggaga acngcnnga 300
 catgcccagn gttanataac nggngagag tnanthtgc tctcccttc ggtgogcan 360
 cngtnttct tagnggacat aacctgacta cttaactgaa ccnngaate tncncctct 420
 ccactaagct cagaacsaasa aacttcgaca ccaactcantt gtcactgnc tgcacaagta 480
 aagtgtaccc catncccaat gtntgtctnga ngctctgncc tgcnttangt tgggtcttgg 540
 gaagacotat caattnaagc tatgtttctg actgctctt gctccctgna acaancnacc 600
 cnncnntcca agggggggnc ggcccccgaat ccccccaccc ntnaattnan ttancccn 660
 ccccnnggce cggcctttta cnancntenn nnaacnggna aaacnnngc ttncccaac 720
 nnaatcncc t 731

<210> 20
 <211> 754
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(754)
 <223> n = A,T,C or G

<400> 20
 .ttttttttttt tttttttttt taaaaacccc ctccattnaa tgnaaacttc cgaatttgc 60
 caaccccctc ntccaaatnn ccttttcgg gnggggggttc caaacccaan tcanntttgg 120
 annttaaat aaatnttntt cggngggnna anccnaatgt nangaaagt naaccanta 180
 tnancttnaa tncctggaaa ccngtngntt ccaaaaatnt ttaaccotta antcctcog 240
 aaatngttna nggaaaaccc aantctctnt aagggtgttt gaaggntnaa tnaaaanccc 300
 nccaattgt ttttngccac gctgaattt attggttcc gntgttttc nttaaaanaa 360
 ggnnancccc ggtaantnaa tccccccnn ccaattata cogannttt ttingaattgg 420
 gancccnccg gaattaacgg ggnnnntccc tnttgggggg cnggannccc cccntcggg 480
 ggttngggnc aggnonnaat tgtttaaggg tcggaaaaat cctccnaga aaaaaanctc 540
 ccaggntgag nntnggggtt ncccccccc cangggccct ctognanagt tgggggttgg 600
 ggggcctggg atttntttc cctntttcc tcccccccc cngggganag aggttngngt 660
 tttgntcnn cggcccnccn aagancttt coganntnaa ttaaatcctt gctngggcga 720
 agtccnttgn agggntaaan ggccccctnn cggg 754

<210> 21
 <211> 755
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(755)
 <223> n = A,T,C or G

<400> 21
 atcancat gacccnaac nngggacmc tcanccggnc nnncnaccnc cggccnatca 60
 nngtnagnnc actcnmttn nateacnccc cncnactac gcccncnanc cnacgcncta 120
 nncanatncc actganngcg cganngan ngagaaanct nataccanag ncaccanacn 180
 ccagctgtcc nanaangcct nnnatacngg nnnatecaat ntgnanccctc cnaaglattn 240
 nncnncanat gattttcctn anccgattac cctncccccc tancctctcc cccccaacna 300
 cgaaggcnct ggncnaaag nngcgnccc ccgtagntc cccnccaagt cncncncta 360
 aactcanccn nattaacncc tctntgagta tcactcccg aatctcacc tactcaactc 420
 aaaaanaten gatcaaaaat aatncaagcc tgnntatnac actntgaactg ggtctctatt 480
 ttagnggtcc ntnaancntc ctaatacttc cagtctnct tcnccaattt cnaaanggtc 540
 ctctcngaca gcatnttttg gttcccnntt ggggtcttan ngaattgccc tctntngaac 600
 gggctctct tctccttogg ttanccctgg tctnccggc cagttattat tctccntttt 660
 aaattctncc entttanttt tggcttctna aacccccggc cttgaaaaag gccccctggc 720
 aaaaggttgt tttganaaaa tttttgttt gtccc 755

<210> 22
 <211> 849
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(849)
 <223> n = A,T,C or G

<400> 22
 tttttttttt tttttangtg tngtctgca ggtagaggct tactacaant gtgaanacgt 60
 aogctnggan taangcgacc cganntctag gannccncc aaatcanac tgtgaagatn 120

atcctganna	oggaanggtc	accggangat	nttgctaggg	tgacemctcc	cannmenttn	180
cataacteng	nggcocctgcc	caccaccttc	ggcggcccnng	ngnccggggcc	cgggtcattn	240
gnnttaacen	cactnagcna	ncggtttccn	nocecmneng	accnnggoga	tcoggggtnc	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccggncce	ctttacccct	nnacaagcca	360
cngcmteta	noenengccc	ccctccant	nnsggggact	gcnnannget	cgttntctng	420
nnaccccmnn	gggtncctcg	gttggtcgant	cnaccgnang	ccanggatcc	cnaagggaagg	480
tgggttnttg	gccccatacc	ttegtctnccg	nncaaccttc	cggachanga	ncggtcccg	540
cnennccgng	cctenectcg	caacacccgc	netentcngt	ncggnnnccc	ccccaccogc	600
ncctctnenc	ngnccnancn	ctccnccncc	gtctcannca	ccaccccgcc	cggccaggcc	660
ntcanccacn	ggungacnng	nagcnctntc	gcncccgccn	gcgnccctcc	cgccnccngaa	720
ctnctctngg	ccantnccgc	tcaanccnna	cnaaacggcg	ctgcccggcc	cgnagccncc	780
ncctccncca	gtctcccggn	cttccnacc	angnttccn	cgaggacacn	nnaccccgcc	840
nnccngcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (872)

<223> n = A,T,C or G

<400> 23

gcgcacaacta	tacttcgctc	gnactcgtgc	gcctcgtctnc	tcttttccctc	cgcaaccatg	60
tctgaenanc	cagattuggc	ngatatcnan	aagntcganc	agtcacaaact	gantaacaca	120
cacacnncan	aganaaatcc	netgccttcc	anagtanaqn	attggaacnng	agaaccange	180
nggcgaatcg	taatnaggcg	tgcgcogcca	atntgtcncc	gtttattntn	ccagctcnc	240
ctnccncccc	taontcttcn	nagctgtcnn	acccctngtn	cgnaccccc	naggtccggga	300
tccgggtttn	nttgaccggng	cnnccctcc	ccctntccat	nacganccnc	cggcaccacc	360
nanngcnccg	nocecgymet	cttcgcencc	ctgtctctntn	ccctgtngc	ctggcnccngn	420
accgcattga	ccctogccnn	ctnccnngaaa	ncgnanacgt	ccgggttggn	annanccgtg	480
tgggnnngcg	tctgcncgcg	gttctctccn	ncncttccca	ccatcttct	tacngggctc	540
cencgccttc	tccnncaenc	ectggggacgc	tnctctntgc	ccctcttnac	tccccccctt	600
cgnccgtgncc	cgncccccacc	ntcatttnca	nacgntcttc	acaannccct	ggntnccctc	660
cnancngnccn	gtcancnag	ggaagggngg	ggnnccnntg	nttgacgttg	ngngangtc	720
cgaanantcc	tccnctccan	cctacccct	cgggcganct	ctcngttnc	aacttanccaa	780
ntctccccc	ngnccncttc	tcagcctcnc	cncnccnct	ctctgcantg	tnctctgctc	840
tnaccnntac	gantnttcgn	cncctcttt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (815)

<223> n = A,T,C or G

<400> 24

gcctgcaage	ttgagtattc	tatagngtca	cctaaatanc	ttggcntaat	catggctenta	60
netgncttcc	tgtgtcaaat	gtatacnaa	tanatatgaa	tctnatntga	caaganngta	120
tctntcatta	gtacacantg	tnttgctccat	cctgtcngan	cantctccca	tnnattnccn	180
cgcattcnccn	gcnantatn	taatngggaa	ntcnnntnnn	ncacnnccat	ctatctncc	240
gncctctgac	tggnagagat	ggatnantt	tnntntgacc	nacatgttca	tcttggattn	300
aananccccc	cgcnngccac	cggttngnng	cnagccnntc	ccaagacctc	ctgtggagggt	360

aacctgogtc	aganncatca	aacntgggaa	acccgcnncc	angtnnaagt	ngnnncanan	420
gateccgtcc	aggttttacc	atcccttcnc	agggcccccct	ttngtgccct	anagnnagc	480
gtgtccnanc	cnctcaacat	ganaogcgcc	agnccanccg	caattnggca	caatgtcgnc	540
gaaccccccta	gggggantna	tncaaanccc	caggattgtc	cnncncangaa	atcccnanc	600
ccnccctac	ccncttttg	gaengtgacc	aantcccgga	gtncacgtcc	ggcngnctc	660
ccccacgggt	nncctgggg	gggtgaanct	cngnntcanc	cnngcgaggn	ntcnaagga	720
acgggacctc	gyncgannng	ancnntcnga	agngcncnt	cgtataacce	ccctcncca	780
nccnchngt	agntcccccc	cnnggtcnng	aangg			815

<210> 25

<211> 775

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(775)

<223> n = A,T,C or G

<400> 25

ccgagatgtc	tgcctccgtg	gccttagctg	tgcctggcgt	actctctctt	tctggcctgg	60
aggctatcca	gggtactcca	aagattcagg	tttactcacc	tcattccagca	gagaatggaa	120
agtcaaatct	cctgaattgc	tatgtgtctg	ggtttctacc	atccgacatt	gaanttgact	180
tactgaagaa	tgganagaga	attgaaaaag	tggagcattc	agacttgtct	ttcagcaagg	240
actgggtctt	ctatctcntg	tactacactg	aattcaccoc	cactgaaaaa	gatgagtatg	300
cctgcctgtg	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gategagaca	360
tgtaagcagn	cnncatggaa	gtttgaagat	gccgcatttg	gattggatga	atcccaaat	420
etgcttgcct	gcntcttaat	antgatatgc	ntatacacc	taccttttat	gncccaaat	480
tgtaggggtt	acatnabtgt	tcnctnngga	catgatcttc	ctttataant	cnccnttccg	540
aattggccgt	cncccggttc	ngaagtgttc	cnnaaccacg	gttggctccc	ccaggtcncc	600
tcttaccgga	gggcctgggc	cnctttncaa	ggctggggga	accnaaaatt	tcnctnttgc	660
ccncccncca	cnctcttngg	nncncaattt	ggaaaccttc	cnattccctt	tggtctcnna	720
nccttmtcta	anaaaaacttc	aanccgtngc	naaanntttt	acttccccc	ctacc	775

<210> 26

<211> 820

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(820)

<223> n = A,T,C or G

<400> 26

anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaaacggggc	ctagaggcat	60
ccanagata	nettatance	acagtgcctt	gaccaagagc	tgttgggcac	atttccctgca	120
gaaaagggtg	cgggtcccat	cactcctcct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcgggtggga	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
notgaggggt	cacactataa	acgttaacga	cnagatnan	cacctgcctc	aagtgcaccc	360
ttcctacctg	acnaccagng	accnnnaact	gongcctggg	gacagcctcg	ggancagcta	420
acnnagcact	caactgcccc	cccatggcgg	tnccctcccc	tggtccctgnc	aagggaagct	480
cctgttggga	attncggggga	naaccaaggga	ncrccctcct	ccanctgtga	agggaaaaann	540
gatggaaatt	tncccttccg	gcnntcccc	tcttccctta	caagccccc	ntactcnctc	600
tccctctctt	ctctgncnc	acttttnacc	cnnnatttc	ccttnattga	tcggannctn	660
ganattccac	tnccgctcnc	cnctnaccng	naanacnaaa	nactntctna	ccngggggat	720
gggnnccctg	ntcatcctct	ctttttcnct	acnccnnctt	ccttgcctct	ccttngatca	780

tccaaacntc gntggccntn cccccccnnn tcccttnccc

820

<210> 27

<211> 818

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(818)

<223> n = A,T,C or G

<400> 27

tctgggtgat	ggcctcttcc	tccctcagga	cctctgactg	ctctgggcca	agaatctct	60
tgtttcttct	ccgagcccca	ggcagcgggtg	attcagccct	gccccacctg	attctgatga	120
ctgaggatgc	tgtgacggac	ccaaggggcca	aatagggtcc	caggggtccag	ggaggggcgc	180
ctgctgagca	cttccgcgcc	tacccctgcc	cagccctctg	catgagctct	gggctgggtc	240
tccgcctcca	gggttctgct	cttccangca	ngccancaag	tggcgtctgg	ccacactggc	300
ttcttccctg	cccttccctg	gctctganc	tctgtcttcc	tgctctgtgc	angcnccttg	360
gatctcagtt	tccctcncct	anngaactct	gttctctgann	tcttccantta	actntganlt	420
tatnaccnan	tggnetgtnc	tgtennaact	taatgggccc	gacgggctaa	tccctccctc	480
actcccttcc	anttcnnnna	acnngcttnc	cttctctctc	ccntancccg	ccnggggaanc	540
ctccttttgc	ctnaccangg	gcccnnnacc	ccctnnnctn	gggggggcnng	gttncctnenc	600
ctgntnnccc	ccctcncnnt	tncctctgtc	cnnnnnccgc	nggcannkte	nengtcccn	660
tnnctctttn	ngntnccgna	ngntcncntn	tnnnnngncc	ngntnntncc	tccctctcnc	720
cnnctgnang	tnnttnnnnc	nccngnccccc	nnnnnnnnnn	ngnnntnnnn	tctnccnngc	780
ccnnccccc	ngnattaagg	cctccnnctc	cgggcnc			818

<210> 28

<211> 731

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(731)

<223> n = A,T,C or G

<400> 28

aggaaggcgc	gagggatatt	gtanggggatt	gagggatagg	agnataangg	gggaggtgtg	60
tcccaacatg	anggtgongt	tctcttttga	angagggttg	ngtttttann	ccnggtgggt	120
gattnaaccc	cattgtatgg	agnnaaagg	tttnagggat	ttttcggctc	ttatcagkat	180
ntanattcct	gtnaatcgga	aaatnatntt	tennccngaa	aatnttgctc	ccatccgnaa	240
attctctccg	ggtagtgcct	nttngggggg	cngccangtt	tcccaggctg	ctanaatcgt	300
actaaagntt	naagtgggan	tncaaataaa	aacctnncc	agagnatccn	taccogactg	360
tnnnnttncct	tgcctctntg	actctgcnng	agcccaatac	ccnngnngnat	gtcncccngn	420
nnngcgnccc	tgaaannnnc	tccngggctnn	ganccatcang	gggttctgca	tcaaaagcnn	480
cgttttncat	naaggractt	tngectcctc	caaccnctng	ccctcnncc	tttngccgtc	540
nggttencct	acgctnnntg	cncctnnntn	ganatttttnc	cgccttnggg	naancctcct	600
gnaatgggta	gggnctcttc	tttttaaccn	gnggtntact	aatcnnctnc	acgontnctt	660
tctnaccccc	ccctctttt	caatccccanc	ggcnaatggg	gtctccccc	cgangggggg	720
nnnccccann	c					731

<210> 29

<211> 823

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtcocag tgtggttgaa ttccattgtg ttgggggcnc ttctatgant antnttagat 60
 cgcctcanacc tcacancctc cccacnangc ctataangaa nannaataga notgtncnt 120
 atntntaenc tcatanncct cnnnaccac tcctctctta ccctctctgt gctctatngcn 180
 tnnctantct ntgcgcgcctn cnancacccn gtggggccnac cncmngnatt ctctatctcc 240
 tcnccatntn gcttananta ngtnccatacc ctatacctac nccaatgcta nnnctaanch 300
 tccatnantt annntaacta ccactgacnt ngactttcnc atnancctct aatttgaatc 360
 tactctgact cccacngcct annnatttagc anctctcccc nacnatntct caacccaaac 420
 ntcacacacc tatctanctg ttctccaccc attnctctcg ctcccccnnac aaccccccctc 480
 ccaaatacc nccacctgac ncttaaccn caccatcccg gcaagccnan ggcattttan 540
 ccactggaat cccnatngga naaaaaaac cnaactctc tancnccnat ctccctaana 600
 aatnctctn naatttactn ncantnccat caacccacn tgaaacnnaa cccctgtttt 660
 tanatccctt cttctgaaaa cnaaccctt anncccaac ctttngggcc ccccnctnc 720
 ccaatgaag gncncccaat cnangaaag nccntgaaaa ancnaggcna anannntccg 780
 canatccat ccttanttn ggggnccctt nccmnggccc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cggccgcctg ctctggcaca tgccctctga atggcatcaa aagtgatgga ctgcccattg 60
 cttagagaaga ccttctctcc tactgtcatt atggagccct gcagactgag ggctcccctt 120
 gtctgcagga ttctgatgtc gaagtctgg agtggtgctt ggagctctcc atctacatna 180
 gctggaagcc ctggaggggc tctctggcca gctcccccct tctctccaa gctctccangg 240
 acaccagggg ctccaggcag cccattattc ccagnangac atgggtgttc tccacggcga 300
 cccatggggc ctgnaaggcc agggctctct ttgacacccat ctctcccgct ctgctctggca 360
 ggccgtggga tccactantt ctanaacggn ogccaccncg gtgggagctc cagcttttgt 420
 tcccttkaat gaaggttaat tgcncgcttg gcgtaatcat nggtcnaaa tntttctgt 480
 gtgaaattgt tntctccctc ncnattccnc ncnacatacn aacccggaan cataaagtgt 540
 taaagcctgg gggtingcctn nngaataaac tnaactcaat taattgogtt ggctcatggc 600
 ccgctttccn ttonggaaaa ctgtentccc ctgcnttntt gaatcggcca ccccccnggg 660
 aaaagcgggt tgcnttttng ggggntccct cctctctccc cctcctaan cctcncgct 720
 cggctcgttc nggtngcggg gaangggnat nnnctccccc naagggggng agnnngntat 780
 ccccaaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31

tttttttttt	tttttttggc	gatgctactg	tttaatttga	ggaggtgggg	gtgtgtgtac	60
catgtaccag	ggctattaga	agcagaagg	aaggaggag	ggcagagcgc	cctgctgagc	120
aacaaaggac	tcctgcagcc	ttctctgtct	gtctcttggc	gcaggcacat	ggggaggcct	180
cccgaggggt	ggggggccacc	agtccagggg	tgggagcact	acanggggtg	ggagtgggtg	240
gtggctggtn	cnaatggcct	gnccanatic	cctacgattc	ttgacacctg	gatttcacca	300
ggggacattc	tgttctccca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
ongcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggctggg	acttggtaca	420
tatggttcog	gccacacctc	ccntcnnaan	aagtaattca	ccccccccc	ccntctnttg	480
cctggggccct	taantaacca	caccgggaact	canttantta	ttcctcttng	gntgggcttg	540
ntnatcnccn	cctgaangcg	ccaagttgaa	aggccacgcc	gtccccctc	cccatagnan	600
ntttttnent	canttaaatgc	ccccccnggc	aacnatacaa	tccccccccc	tggggggccc	660
agcccaanggc	ccccgncctg	ggnncccnng	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgcaogca	gaacanaagg	ntngagccnc	cgcannnnnn	nggttnncac	780
ctggccccc	ccnnccngng					799

<210> 32

<211> 789

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (789)

<223> n = A,T,C or G

<400> 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttccnag	ggcagggttta	ttgacaacct	cncgggacac	aancagggtg	gggacaggac	120
ggcaacaggc	tccggggggg	gogggggggg	cctacactgc	ggtacccaat	ntgcagcctc	180
cgctcccgct	tgatnttctc	ctgcagctgc	aggatgccnt	aaaacagggc	ctgggccntn	240
ggtggggcaac	ctgggatttn	aatttccacg	ggcacatgc	ggtogcance	cctcacccac	300
nattaggaat	agtggnttta	ccnccnccg	ttggcncact	cccnttggaa	accacttntc	360
goggtcccyg	cattctggct	taaaacttgc	aaacnctggg	gccccttttt	tggttantnt	420
ncnngccaca	atcatnactc	agactggcnc	gggctggccc	caaaaaancc	ccccaaaacc	480
ggncatgtc	ttnnccgggt	tgtctgcnat	tnccatccct	cccgggcnca	ncaggncaac	540
cczaaagtcc	ttngggcccn	caaaaaanct	ccggggggnc	ccagtttcaa	caaaagtcat	600
ccccctggcc	cccaaatcct	ccccccgntt	netgggtttg	ggaaacccag	cctctnnctt	660
tggnnngcaa	gntggntccc	ccttcggggc	cccggtgggc	ccnctctaa	ngaaaaancc	720
ntcctnnnca	ccatccccc	nngnnacgnc	tancaangna	tccctttttt	tanaaaaggg	780
ccccccnccg						789

<210> 33

<211> 793

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (793)

<223> n = A,T,C or G

<400> 33

gacagaacac	gttggatggt	ggagcaccct	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tgttggagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtttgc	agatgtattt	gcaaagaaga	cgaaagcaga	gtgggtgtcaa	atctttgacg	240
gcacagatgc	cgtgtgactc	ccggttctga	cttttgagga	ggttggtcct	catgatcaca	300
acaangaacg	gggtctggtt	atcaccantg	aggagcagga	cgtgagcccc	cgccttgcac	360

ctctgctggt	aaacacccca	gccatccctt	cttccaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	cccagctttt	gttcccttta	gtgagggtta	attgcggcgt	480
tggcgtaatc	atggtccatan	ctgtttcttg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	ancgggaagc	atnaaatatt	aaagcctggg	ggtngcctaa	tgantgaact	600
naetccacat	aattggcttt	gcgctcaactg	cccgttttcc	agtccggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	cccggggaaa	aggcngtttg	cttntctggg	720
cgccttccc	gctttctcgc	tctctgaant	ccttccccc	ggtctttcgg	cttgccgona	780
acgggtatcna	cct					793

<210> 34

<211> 756

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (756)

<223> n = A,T,C or G

<400> 34

gcggcgaccc	gcctgtacga	gcaactcaag	ggcgagtgga	accgtaaaag	ccccatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagttc	ttctggagct	caacttcttg	120
ccaaccacag	ggaccaagct	gaccaaacag	cagctaattc	tggcccggtg	catactggag	180
atcggggccc	aatggagcat	cctacgcaan	gacatccctc	ccttcgagcg	ctacatggcc	240
cagctcaaat	gtactacttt	tgattacaan	gagcagctcc	ccgagtcagc	ctatatgcac	300
cagctctctgg	gcctcaacct	cctcttcttg	ctgtcccaga	accgggtggc	tgantccrac	360
acgganlttg	ancggctgcc	tgcccaanga	catacanacc	aatgtctaca	tonaccacca	420
gtgtcctgga	gcaatactga	tgganggcag	ctaccncaaa	gtnttccctg	ccnagggtta	480
cctcccccgc	cgagagctac	accttcttca	ttgacatctt	gctcgacact	atcaggggatg	540
aaatctcgng	ggttgctcca	gaaaggctnc	aanaanatcc	tttctcnctga	aggcccccg	600
atcnctagt	ntcgaatcg	gcccgcatac	gggttggaac	ctccaaacct	tgttncctc	660
ttactgaggg	ttnatctcgc	cccttggegt	tatcatggtc	acnccngttt	cctgtgttga	720
aattnttaac	ccccacacat	tccacgcena	cattng			756

<210> 35

<211> 834

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (834)

<223> n = A,T,C or G

<400> 35

ggggatctct	anactnacct	gnatgcattg	ttgtcgggtg	ggtcgctgtc	gatgaanattg	60
aacaggatct	tgcccttgaa	gctctcgggt	gctgtnttta	agttgctcag	tctgcccgtca	120
tagtcagaca	cctctctggg	caaaaaaacan	caggatntga	gtcttgattt	caacctccaat	180
aatcttcngg	gctgtctgct	cggtgaaactc	gatgaenang	ggcagctggg	tgtgtntgat	240
aaantccanc	angttctcct	tggtgacctc	cccttcaag	ttgttcgggc	cttctccaaa	300
cctctnnaan	angannanc	cacttttgtc	gagctggmat	ttgganaaca	cgtcactggt	360
ggaaactgat	cccaaatggg	atgtcatcca	tgcctctgtc	tgccctgcaa	aaacttgctt	420
ggcncaaatc	cgactcccn	tctttgaaag	aagccnatca	cacccccctc	cctgggactcc	480
nncaangact	ctncogctnc	cccttcnng	cagggtttgt	ggcannccgg	gcccttgccg	540
ttcttcagcc	agttcacnat	nttcacacgc	ccctctgcca	gctgtnttat	tccctggggg	600
ggaaancgct	tctcccttcc	tgaannaaat	ttgacgctng	gaatagccgc	gentenccnt	660
acntnctggg	ccgggttcaa	antccctccn	ttgncnntcn	cctcggggcca	ttctgggattt	720
nncaaatctt	tctcttccc	cncccnccgg	ngtttggnnt	tttcatnggg	ccccaaactct	780

gcctnttggtc antcccttgg gggcctntan ccccccttnt ggtccctnng ggtc

834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1) ... (814)
 <223> n = A,T,C or G

<400> 36
 cggncgcttt ccmgcgcgc cccgtttcca tgacnaaggc tcccttcang ttaaatacnn 60
 cctagnaaac attaatgggt tgctctacta atacatcata cnaaccagta agcctgccc 120
 naecgccaac tcaggccatc cctaccaaag gaagaaaggc tgggtctctc cccccctgta 180
 ggaagggcct gccttgtaag acaccacaat nccgctgaat ctnaagctct gtgttttact 240
 aatggasaaa aaaaataaac aanagggttt gttctcatgg ctgcccacog cagcctggca 300
 ctaaaacanc ccagcgctca cttctgcttg ganaaatatt ctttgcctct ttggacatca 360
 ggcttgatgg tatcactgcc acncttcac ccagctgggc ncccttcccc catntttgtc 420
 antgancctgg aaggcctgaa ncttagcttc caaaagtctc ngcccacaag accggccacc 480
 aggggaggtc ntttncagtg gatctgccc anantacccn tatcatcnnt gaataaaaag 540
 gcccctgaac ganatgcttc cancanctt taagaccat aatcctngaa ccattggtgco 600
 ctccgggtct gatccnaag gaatgttctt gggctccant cctcctttg ttctttact 660
 tgtnttgga ccttgctnng atnaccacaan tganatccc ngaagcacc tncctctggt 720
 atttganttt cmtaaattct ctgcccactn nctgaaagca cnattccctn ggcnccnaan 780
 gngaaactca agaaggctct ngaaaaaacca cncn 814

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1) ... (760)
 <223> n = A,T,C or G

<400> 37
 gcattgctgt ctccctcaaa gttgttcttg ctgccataac aaccaccata ggtaaagcgg 60
 ggcagtggt cgtgaagggt gttgttagtac cagcgcggga tgctctcctt gcagagtcct 120
 gtgtctggca ggtccacgca atgccccttg tcactgggga aatggatgog ctggagctcg 180
 tcnaancac tctgttattt ttacangca gctcctccg aagcttccgg gcagtgggg 240
 gtgtctgac actccactaa actgtcgatn cancagccca ttgctgcagc ggaactgggt 300
 gggctgacag gtgocagaac acactggatn ggcctttcca tggaggggco tgggggaaat 360
 cncctnanc caaactgct ctcaaaggcc accttgca caaccgacag ctagaatgc 420
 actctctctt ccaaggtag ttgttcttgt tgcccaagca nctccanca aaccaaaanc 480
 ttgcaaaatc tgcctcgttg gggctcatnn taccanggtt ggggaaanaa acccggtcng 540
 gancnctt gtttgaatgc naagynaata atcctcctgt ctgtcttggg tggaaagca 600
 caattgaact gttacnttg ggcgnggtc cncctnggtg gtctgaaact aatcaccgtc 660
 actggaaaaa ggtangtgc ttccctgaat tcccaaanct cccctngntt tgggtnttt 720
 ctctctncc ctaaaaatcg tnttcccccc cmtangggc 760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{724}
 <223> n = A,T,C or G

<400> 38
 tttttttttt tttttttttt tttttttttt ttttttaaaa cccctcccat tgaatgaaaa 60
 ctccnnaaat tgtccaaccc cctcnmccaa atnnccattt cggggggggg gtcccaaac 120
 caaattaatt ttgganttta aattaaatnt tnattngggg aanaanccaa atgtnaagaa 180
 aatttaaccc attatnaact taaatncctn gaaacccntg gnttccaaaa atttttaacc 240
 cttaaatccc tccgaaattg ntaanggaaa accaaattcn cctaaggctn tttgaagggt 300
 ngatttaaac ccccttnant tnttttnacc cngnctnaa ntatttngnt tccggtgttt 360
 tcctnttaan cntnggtaac tcccgntaat gaannmccct aanccaatta aacogaattt 420
 tttttgaatt ggaaattccn ngggaattna cgggggtttt tcccttttgg gggccatncc 480
 ccccttttgg ggggttgggn ntgggttga tttttnnang ncccaaaaaa ncccccaana 540
 aaaaaactcc caagmnttaa ttngaattnc ccccttccca ggccttttgg gaaaggnggg 600
 tttttggggg cgggggantt cnttcccccn ttncncccc ccccccnggt aaanggttat 660
 ngntttgggt ttttgggccc cttnanggac ctccggatn gaaattaat cccggggnog 720
 gccg 724

<210> 39
 <211> 751
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{751}
 <223> n = A,T,C or G

<400> 39
 tttttttttt tttttctttg ctacatttta atttttattt tgattttttt taatgctgca 60
 caacacaaata tttatttcat ttgtttcttt tatttcatct cttttgtttg ctgctgctgt 120
 tttatttatt tttactgaaa gtgagaggga acttttgttg ctttttttcc tttttctgta 180
 ggccgcctta agctttctaa atttggaaca tctaagcaag ctgaanggaa aaggggggtt 240
 cgcaaaataa ctggggggaa nggaaagggt gctttgttaa tcatggccta tgggtgggtga 300
 ttaactgctt gtacaattac ntttcaattt taattaattg tgetnsangc ttttaattana 360
 cttgggggtt ccttccccc accaaccocn ctgacaaaaa gtgcngccc tcaaatnatg 420
 tcccgccnct cnttgaaaca caengcngaa ngttctcatt ntcccnccnc caggtnaaaa 480
 tgaagggtta ccatttttaa cncacctcc acntggcnnn gcctgaatcc tcnaaaancn 540
 cctcaancn aattntnng cccgggtenc gentnngtcc cncgggget cggggaantn 600
 ccccccnnga anncnntnnc naacnaaatt ccgaataat tcccnntcnc tcaattcccc 660
 cnnagactnt cctcnncnan cncattttt ttttontcnc gaacncgnnc cnaaaatgn 720
 nnnnncctc cntngtccn naatcnccn c 751

<210> 40
 <211> 753
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{753}
 <223> n = A,T,C or G

<400> 40
 gtggctatct ctgtaagatc aggtgttctt cctctgtagg tttagaggaa acacccctcat 60
 agatgaaaac ccccccgaga cagcagcact gcaactgcca agcagccggg gtagggaggg 120


```

cgccctatgc acagctgggc ccttgagaca gcagggcttc gatgtcaggc tcgatgtcaa 180
tggtctggaa ggggggctg tacctgcgta ggggcacacc gtcagggccc accaggaact 240
tctcaaagtt ccaggcaacn tcgttgcgac acacgggaga ccaggtgatn agcttggggt 300
cggtcataaa cggggtggcg tcgtcgctgg gagctggcag ggccctccgc aggaaggcna 360
ataaaaggty cggccccgca ccgttcancr cgcacttctc naanaccatg angttgggct 420
cnaaccacac accannccgg acttcottga nggaattccc aaatctcttc gntcttgggc 480
ttctnctgat gccctancg gttgcccnng atgccaanca nccccancc ccggggctct 540
aaanacccon cctctcctt tcatctgggt tnttntccc ggacntggg tctctcag 600
ggancccata tctcnaccn tactcaccnt nccccccnt gnnaccanr cttctannn 660
tcccncccg nectctggcc cntcaanan gcttnacma cctgggtctg ccttcccccc 720
tncctatct gnaccmncn tttgtctcan tnt 753

```

```

<210> 41
<211> 341
<212> DNA
<213> Homo sapien

```

```

<400> 41
actatctcca tcacaacaga catgottcat cccatagact tcttgacata gcttcaaatg 60
agtgaaccca tctttgattt atatacatat atgttctcag tattttggga gcctttccac 120
ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaga gttaaaagt 180
tatagcttgt ttacgtagta agtttttgaa gtctacattc aatccagaca cttagttgag 240
tggtaaactg cgatttttaa aaatatcat ttgagaatat tctttcagag gtattttcat 300
ttttactttt tgattaattg tgttttatat attagggtag t 361

```

```

<210> 42
<211> 101
<212> DNA
<213> Homo sapien

```

```

<400> 42
acttactgaa tttagttctg tgcctcttct tatttagtgt tgtatcataa ctactttgat 60
gtttcaaaca tctaaataa ataattttca gtggcttcat a 101

```

```

<210> 43
<211> 305
<212> DNA
<213> Homo sapien

```

```

<400> 43
acatctttgt tacagtctaa gatgtgttct taaatcacca ttccttcttg gtctcacc 60
tcaggggtgg tctcacactg taattagagc tattgaggag tctttacagc aaattaagat 120
tcagatgcct tgctaagtct agagttctag agttatgttt cagaaagtct aagaaaccca 180
cctcttgaga ggtcagtaaa gaggacttao tctttcatac ctacaaaatg accacaggat 240
tggtatcaga acgagagtta tcttgataa ctcagagctg agtacctgcc cgggggcccgc 300
tcgaa 305

```

```

<210> 44
<211> 852
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...{852}
<223> n = A,T,C or G

```

```

<400> 44

```

acataaatat	cagagaaaag	tagtccttga	aatatcttaag	tocaggaggt	ctttgtttct	60
gattatttgg	tgtgtgtttt	ggttctgtgt	caaagtattg	gcagcttcag	ttttcatttt	120
ctctccatcc	tcgggcatte	ttcccaaat	tataaccag	tcttcgtcca	tcacacgct	180
ccagaatttc	tctttttag	taatatctca	tagctcggct	gagcttttca	taggtcatgc	240
tgtgttbt	cttcttttca	ccccatagct	gagccactgc	ctctgatttc	aagaacctga	300
agacgccctc	agatoggtct	tcccatttta	ttaatcctgg	gttcttgtct	gggttcaaga	360
ggatgtcgog	gatgaattcc	cataagttag	tccctctcgg	gttgtgtctt	ttggtgtggc	420
acttggcagg	ggggctctgc	tcttttttca	tatcaggtga	ctctgcaaca	ggaagggtgac	480
tgggtgttgt	catggagatc	tgagcccggc	agaaagtttt	gctgtccaac	aatctactcg	540
tgctaccata	gttgggtgtca	tataaatagt	tctngtcttt	ccagggtgtc	atgatggaag	600
gctcagtttg	ttcagtccttg	acaatgacat	tgtgtgtgga	ctggaacagg	tcactactgc	660
actggccggt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgcctc	gcogtccctg	720
cggcccggtt	gaactcctgc	aaactcatgc	tgcaagggtg	ctcgccgttg	atgtcgaaact	780
cntggaaaag	gatacaattg	gcctccagct	ggttgggtgt	caggaggtga	tggagccact	840
ccacacctg	gt					852

<210> 45

<211> 234

<212> DNA

<213> Homo sapien

<400> 45

acaacagacc	cttgcctcgt	aacgacctca	tgctcatcaa	gttggacgaa	tcogtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccccg	gggaactctt	120
gcctcgtttc	tggctggggg	ctgctggcga	acggcagaat	gcctacccgt	ctgcagtgcg	180
tgaacgtgtc	ggtgtgtgtc	gaggaggtct	gcagtaagct	ctatgacccg	ctgt	234

<210> 46

<211> 590

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(590)

<223> n = A,T,C or G

<400> 46

actttcttatt	taaatgttta	taaggcagat	ctatgagaat	gatagaaaac	atgggtgtgt	60
atttgatagc	aatatttctg	agcttacaga	gttttagtaa	ttaccaatta	cacagttaaa	120
aagaagataa	tatattccaa	gcenatacaa	aatatctaat	gaangatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaaaatca	attttaatgt	gaattgcaca	ttatccttta	240
aaagctttca	aaanaaanaa	ctattgcagt	ctanttaatt	caaacagtg	taaatgggtat	300
caggataaan	aactgaagg	caaaaagaat	taattttcac	ttcatgtaac	ncacccanac	360
ttacaatggc	tcaaatgcan	ggaaaaagca	gtggaagttag	ggaagtantc	aagggtctttc	420
tggctctctaa	tctgccttac	tctttgggtg	tggctttgat	cctctggaga	cagctgccag	480
ggctcctgtt	atatccacaa	tcccagcagc	aagatgaagg	gatgaaaaag	gacacatgct	540
gccttccttt	gaggagactt	catctcactg	gccaacactc	agtcacatgt		590

<210> 47

<211> 774

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(774)

<223> n = A,T,C or G

```

<400> 47
acaagggggc ataatgaagg agtgggggana gatttttaag aaggaaaaaa aaogaggccc      60
tgaacagaat ttccctgnac aacgggggctt caaaataatt ttcttgggga ggttcaagac      120
gcttccactgc ttgaaactta aatggatgtg ggacanaatt ttctgtaatg accctgaggg      180
cattacagac gggactctgg gaggaaggat aaacagaaaag gggacaaaagg ctaatcccaa      240
aacatcaaaag aaaggaagggt ggogtcatac ctcccagcct acacagttct ccagggctct      300
ctcctccct ggaggaogac agtggaggaa caactgacca tgtccccagg ctctgtgtg      360
ctggctctg gtcttcagcc ccagctctg gaagcccaac ctctgtgat cctggtggc      420
cccaactcct tgaacacaca tcccagggtt atattcctgg acatggctga acctcctatt      480
cctacttcg agatgccttg ctccctgcag cctgtcaaaa tccactcac cctccaaacc      540
acggcatggg aagcctttct gacttgctg attactccag catcttgga caatccctga      600
ttcccactc cttagaggca agatagggtg gtttagagta gggctggacc acttgagcc      660
aggtgtgtg cttcaaattn tggctcattt acgagctatg ggaacctggg caagtnatct      720
tcacttctat gggcctcatt ctgtcttacc tgcaaaatgg gggataataa tagt          774

```

```

<210> 48
<211> 124
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{124}
<223> n = A,T,C or G

```

```

<400> 48
canaaattga aattttataa aaaggcattt ttctcttata tccataaaat gatataattt      60
ttgcaantat aaaaatgtgt cataaattat aatgttctt aattacagct caacgcaact      120
tggc          124

```

```

<210> 49
<211> 147
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{147}
<223> n = A,T,C or G

```

```

<400> 49
gccgatgcta ctattttatt gcaggagggtg ggggtgtttt tattattctc tcaacagctt      60
tgtggctaca ggtgggtgtc gactgcatna aaaanttttt tacgggtgat tgcaaaaatt      120
ttagggcacc catatcccaa gcantgt          147

```

```

<210> 50
<211> 107
<212> DNA
<213> Homo sapien

```

```

<400> 50
acattaaatt aataaaaggga ctgttgggggt tctgctaaaa cacatggctt gatatatgtc      60
atggttttag gttaggaggga gttaggcata tgttttggga gaggggt          107

```

```

<210> 51
<211> 204
<212> DNA

```

<213> Homo sapien

<400> 51

gtcctaggaa	gtctagggga	cacacgactc	tggggctacg	gggcggacac	acttgccagg	60
cggsaaggaa	aggcagagaa	gtgacacogt	cagggggasa	tgacagaaag	gaaaatcaag	120
gccttgcaag	gtcagaaagg	ggactcaggg	cttccaccac	agccctgccc	cacttgggcca	180
cctccctttt	gggaccagca	atgt				204

<210> 52

<211> 491

<212> DNA

<213> Homo sapien

<320>

<221> misc_feature

<222> (1)...(491)

<223> n = A,T,C or G

<400> 52

acaaagataa	catttatctt	ataacaaaaa	tttgatagtt	ttaaagggtta	gtatttgtta	60
gggtattttt	caaaagacta	aagagataac	tcaggtaaaa	agttagaaat	gtataaaaca	120
ccatcagaca	ggttttttaa	aaacaacata	ttacaaaatt	agacaatcat	ccttaaaaaa	180
aaaacttctt	gtatcaattt	cttttgttca	aatgactga	cttaantatt	tttaaatatt	240
tcanaaacac	ttcctcaaaa	atrttcaana	tggtagcttt	canatgtncr	ctcagtccca	300
atgttgctca	gataaataaa	tctcgtgaga	acttaccacc	caaccacaagc	tttctggggc	360
atgcaacagt	gtcttttctt	tncttttctt	tttttttttt	ttacaggcac	agaaactcat	420
caattttatt	tggataacaa	agggtctcca	aattatattg	aaaaataaat	cgaagttaat	480
atcaactcttg	t					491

<210> 53

<211> 484

<212> DNA

<213> Homo sapien

<320>

<221> misc_feature

<222> (1)...(484)

<223> n = A,T,C or G

<400> 53

acataattta	gcagggttaa	ttaccataag	atgctattta	ttaanaggtn	tatgatctga	60
gtattaacag	tggctgaagt	ttggatattt	catgragcat	ttcttttttg	ctttgataac	120
actacagaac	ccttaaggac	actgaaaatt	agtaagttaa	gttcagaaac	attagctgct	180
caatcaaatc	tctacataac	actatagtaa	ttaaaacgtt	aaaaaaaagt	gttgaaatct	240
gcactagtat	anacogctcc	tgtcaggata	anactgcttc	ggacagaaa	gggaaaaanc	300
agctttgant	ttctttgtgc	tgatangagg	aaaggctgaa	ttaccttggt	gcctctccct	360
aatgattggc	aggctcggta	aatnccaaaa	catsttccaa	ctcaacactt	cttttcnccg	420
tancttgant	ctgtgtattc	caggancagg	cggatggaat	gggccagccc	ncggatgttc	480
cant						484

<210> 54

<211> 151

<212> DNA

<213> Homo sapien

<400> 54

actaaacctc	gtgcttggtga	actccataca	gaaaacgggtg	ccatccctga	acacgggtcg	60
ccactgggta	tactgctgac	aaccgcaaca	acaaaaacac	aaatcccttg	cactgggtag	120

tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gttcccggtg ccccccacgg tccccagaac ggacactttc 60
 gccctccagt ggcctactga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggccgatgtg cgttggttat atacaaatat gtcattttat gtaagggact tgagtatact 60
 tggatttttg gtatctgttg gttgggggga cggtcacgga accaataccc catggatacc 120
 aagggacaac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagcgg ctgctccgcc tctgggatga ggtgatgcan gongtggcgc 60
 gactggggagc tgagcccttc cttttgcgcc tgcctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncaat gcagggt 147

<210> 58
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggttttnaag ttattgttat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata catttatcct ttaaaaaaga tgtaaatcct aatttttatg ccactatatta 120
 atttaccat gagttacctt gtaaatgaga agtcatgata gcactgaatt ttaactagtt 180
 ttgacttcta agtttggg 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59

acaacaaatg ggtctgtgagg aggtcttatac agcaaaactg gtgatggcta ctgaaaagat	60
ccattgaaaa ttatcattaa tgatttttaa tgacaagtta tcaaaaactc actcaatttt	120
cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa	180
tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagaccag	240
cagaaggaaat ctattttatc acatggatct cagtctgtgc tcaaaatacc taatgatatt	300
tttctgtttt attggacttc tttgaagagt	330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60	
accgtgggtg ccttctacat tctgacggc tcttcacca acatctgggt ctacttcggc	60
gtcgtgggtc ccttcctctt catctctatc cagctgggtc tgcctatoga ctttgogcac	120
tcttggaacc agcgggtggc gggcaaggcc gaggagtgc attccgtgc ctggt	175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61	
accccaattt tctcctgtg agcagtctg acttctact gctacatgat gagggtagt	60
gggtgtgtgt ctccaacagt atctctccct ttcgggatch gctgagccgg acagcagtgc	120
tggactgcac agccccgggg ctccacattg ctgt	154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62	
cgtctgagcc ctatagttag tcttattaga	30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63	
acaagtcaat tcagcaccct ttgctcttca aaactgacca tcttttatat ttaatgtctc	60
ctgtatgaat aaaaatgggt atgtcaagt	89

<210> 64
 <211> 97
 <212> DNA
 <213> Homo sapien

<400> 64	
accggagtaa ctgagtcggg acgtgaato tgaatccacc aataaataaa ggttctgcag	60
aatcagtgc tccaggattg gtcottggat ctgggggt	97

<210> 65
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 65
 acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccctt ttgatggca 60
 gcattggctc ctaggccttg acacagoggc tggggcttgg gctntcccaa accgcacacc 120
 ccaacccctgg tctaccaca nttctggcta tgggctgtct ctgccactga acatcagggt 180
 tcggtcataa natgaatcc caanggggac agaggtcagt agaggaggct caatgagaaa 240
 ggtgctgttt gctcagccag aaacagctg cctggcattc gccgctgaac tatgaacccg 300
 tgggggtgaa ctaccccccag gaggaatcat gcctgggcca tgcaanggtg ccaacaggag 360
 gggggggagg agcatgt 377

<210> 66
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 66
 acgcctttcc ctccagaattc aggggaagaga ctgtgcctc ccttccctcg ttgttgcctg 60
 agaacccctg tgcctctcc caccatctcc accctcctc catctttgaa ctcaaacacg 120
 aggaactaac tgcaccttg tctctctccc agtcccctg tccctcctc tccctcact 180
 tctccactc taagggatc caacactgcc cagcacaggg gccctgaatt tatgtggttt 240
 ttatatatt tttaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300
 tgttt 305

<210> 67
 <211> 385
 <212> DNA
 <213> Homo sapien

<400> 67
 actacacaca ctccacttgc ccttgtgaga cactttgtcc cagcacttta ggaatgctga 60
 ggtcggacca gccacatctc atgtgcaaga ttgcccagca gacatcaggt ctgagagttc 120
 ccttttttaa aaaggggact tgccttaaaa agaaagtctag ccacgattgt gtgagcagc 180
 tgtgctgtgc tggagattca cttttgagag agttctctc tgagacctga tctttagagg 240
 ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300
 cctctccag ggcccagcc tggccacacc tgcctacagg gcactctcag atgccatac 360
 catagttct gtgctagtgg accgt 385

<210> 68
 <211> 73
 <212> DNA
 <213> Homo sapien

<400> 68
 acttaaccag atatatttt accccagatg gggatattct ttgtaaaaa tgaaaataaa 60
 gttttcttaa tgg 73

<210> 69
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)

<223> n = A,T,C or G

<400> 69

actagtcacag	tgtggtggaa	ttccattgtg	ttggggggtc	tcacccctct	ctcctgcagc	60
tccagctttg	tgctctgcct	ctgaggagac	catggcccag	catctgagta	ccctgctgct	120
cctgctggcc	accctagctg	tggccctggc	ctggagcccc	aaggaggagg	ataggataat	180
cccggttggc	atctataacg	cagaacctca	tgatgagtgg	gtacagcgtg	cccttcaact	240
cgccatcagc	gagtataaca	aggccaccaa	agatgactac	tacagacgtc	cgctgcgggt	300
actaagagcc	aggcaacaga	ccgttggggg	ggtgaattac	ttcttcgacg	tagaggtggg	360
cogaaccata	tgtaccaagt	cccagcccaa	cttggacacc	tgtgccttcc	atgaacagcc	420
agaactgcag	aagaaacagt	tgtgctcttt	cgagatctac	gaagtccctt	gggggagaaa	480
gaangtccct	gggtgaaatc	cagggtgtca	gaatctctan	ggatctgttg	ccaggc	536

<210> 70

<211> 477

<212> DNA

<213> Homo sapien

<400> 70

atgaccccta	acagggggcc	cttcagccct	octaatgacc	tcgggcttag	ccatgtgatt	60
tcaattccac	tcataaacgc	tcctcatact	aggctactca	accaacacac	taacctata	120
ccaatgatgg	cgcgatgtaa	cacgagaaag	cacataccaa	ggccaccaca	caccacctgt	180
ccaaaaaggc	cttcgatacg	ggataatcct	atttattacc	tcagaagttt	tttctctgcg	240
agggattttt	ctgagccttt	taccactcoa	gcctagcccc	taccccccaa	ctaggagggc	300
actggccccc	aacaggccatc	accccgctaa	atccccctaga	agtcaccatc	ctaaacacat	360
ccgtattact	cgcattcagga	gtatcaatca	cctgagctca	ccatagtcta	atagaaaaaa	420
acogaaacca	aattattcaa	agcactgctt	attacaattt	tactgggtct	ctattttt	477

<210> 71

<211> 533

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(533)

<223> n = A,T,C or G

<400> 71

agagctatag	gtacagtgtg	atctcagctt	tgcaaacaca	ttttctacat	agatagtact	60
aggtattaat	agatatgtaa	agaaagaaat	cacaccatta	ataatggtaa	gattgggtta	120
tgtgatttta	gtggtatctt	tggcaccctt	atatatgttt	tccaaacttt	caggagtgat	180
attattttca	taacttaaaa	agtgagtttg	aaaaagaaaa	tctccagcaa	gcattctcatt	240
taaaataaag	tttgtcatct	ttaaaaatac	agcaatatgt	gactttttca	aaaagctgtc	300
aaatagggtg	gacctacta	ataattatta	gaaatacatt	taaaaacatc	gagtacctca	360
agtcagtttg	ccttgaaaaa	tatcaaatat	aactcttaga	gaaatgtaca	taaaagaatg	420
ottcgtaatt	ttggagtang	aggttccctc	ctcaattttg	tattttttaa	angtccatgg	480
taaaaaaaaa	aattcacaac	agtatataag	gctgtaaaaa	gaagaattct	gcc	533

<210> 72

<211> 511

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(511)

<223> n = A,T,C or G

<400> 72

tattacggaa	aaacacacca	cataattcaa	ctancaaaga	anactgcttc	agggcggtga	60
aatgaaagg	cttccaggca	gttatctgat	taaagaacac	caaaagaggg	acaaggctaa	120
aagcgcagg	atgtctacac	tatancaggc	gctatttggg	ttggctggag	gagctgtgga	180
aaacatggan	agatttggtgc	tgganacgc	cgtggctatc	cctcattgtt	attacanaagt	240
gaggttctct	gtgtgcccac	tggtttgaaa	accgttctnc	aataatgata	gaatagtaca	300
cacatgagaa	ctgaaatggc	ccaaacccag	aaagaaagcc	caactagatc	ctcagaanac	360
gcttctaggg	acaataaccg	atgaagaaaa	gatggcctcc	ttgtgcccc	gtctgttatg	420
attctctcc	attgcagcna	naaacccgtt	cttctaagca	aacncagggtg	atgatggcna	480
aaataacccc	ctctttgaag	nacnnggagg	a			511

<210> 73

<211> 499

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (499)

<223> n = A,T,C or G

<400> 73

cagtgcacgc	actggtgcca	gtaccagtae	caataacagt	gccagtgcga	gtgcccagac	60
cagtgggtggc	ttcagtgctg	gtgccagcct	gaccgccact	ctcacatttg	ggctcttcgc	120
tggccttggg	ggagctgggt	ccagcaccag	tggcagctct	ggtgcctgtg	gttctctcta	180
caagttagat	tttagatatt	gttaactctg	ccagtcttct	tcttcaagcc	aggggtgcac	240
ctcagaaccc	tactcaacac	agcactctag	gcagccacta	tcaatcaatt	gaagttagca	300
ctctgcatta	aactctatttg	ccattctctga	aaaaaaaaaa	aaaaaaaggg	cggcgcctcg	360
antctagagg	gcccgtttta	acccgctgat	cagcctcgac	tgtgccttct	anttgcacgc	420
catctgttgt	ttgcccctcc	cccgnctgct	tccttgaccc	tggaaagtgc	cactcccaat	480
gtcctttcct	aantaaaat					499

<210> 74

<211> 537

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (537)

<223> n = A,T,C or G

<400> 74

tttcatagga	gaacacactg	aggagatact	tgaagaattt	ggattcagcc	gcgaagagat	60
ttatcagctt	aactcagata	aaatcattga	aggtactaag	gtaaaagcta	gtctcttaact	120
tccaggcccc	cggtcgaagt	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggagggaacag	tattacagtg	tcctaccact	ctaatacaaga	240
aaagaattac	agactctgat	cttcacagtga	tgattgaatt	ctaaaaatgg	taatcattag	300
ggcttttgat	ttataanaact	ttgggtactt	atactaaatt	atggtagtta	tactgccttc	360
cagtttgctt	gatataattg	ttgatattaa	gattccttgac	ttataatttg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaaga	catogatata	caattattta	cactcttgat	480
tctacaatgt	agaaaatgaa	ggaaatgccc	caaattgtat	ggtagataaaa	gtcccgct	537

<210> 75

<211> 467

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (467)
 <223> n = A,T,C or G

<400> 75
 caaanacaat tgttcaaaag atgcaaatga tacactactg ctgcagctca caaacacctc 60
 tgcataattac aggtacctcc tectgtctct caagtagtgt ggtctathtt gccatcatca 120
 octgtctgtct gcttagaaga acggctttct gctgcaangg agagaaatca taacagaagg 180
 tggcacaagg aggcacatctt ttctctcatg gttattgtcc ctagaagcgt cttctgagga 240
 tctagtctggg ctttctttctt gggtttggg catttcantt ctcatgtgtg tactattcta 300
 tcattcttgt ataagggttt tcaaacnngt gggcancag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggt gatctccagc accaaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc ogctgctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (400)
 <223> n = A,T,C or G

<400> 76
 aagctgarag cattogggcc gagatgtctc gctccgtgge cttagctgtg ctgcagctac 60
 tctctctttc tggcctggag gctatccagc gtactccaaa gattcagggt tactcaagtc 120
 atccagcaga gaatggaaa tcaaatcttc tgaattgcta tctgtctggg ttccatccat 180
 ccgacattga agttgaetta ctgaagaatg gagagagaat tgaaaaagtg gagcattcag 240
 acttgtcttt cagcaaggac tggctctttc atctcttgta ctacactgaa ttcarcccca 300
 ctgaaaaaga tgagtatgco tgcctgtgtg accatgtgac ttgttcacag cccaagatng 360
 tttagtggga toganacatg taagcagcan catgggaggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgc ttggtgtttc aagccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggtcc ggagcacctt tgccgggctg tgattgtctc 120
 caggcaactgt tcactctcagc ttttctgtcc ctttgcctcc ggcaagcgtc tctgctgaaa 180
 gttcatactc ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa 240
 aaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag tgtggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcaaccagac ccgcctctgc cgtgccccca cgtgtgtgtc aaggacagta tgatgcttac 120
 tctgtacttc ggaaactatt tttatgtaat taatgtatgc tttcttgitt ataaatgctt 180
 gattttaaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

<400> 79
 tccttttctgtt aggttttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg 60
 tttaggcagt gctagtaatt tctctgtaat gattctgtta ttacttttct attctttatt 120
 cctcttttct ctgaagatta atgaagttga aaattgaggt ggataaatac aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt 240
 atgcaagtta gtaattactc agggttaact aaattacttt aatattgctgt tgaacctact 300
 ctgttctctg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatattcta tgttctaaaa gtggggtctat acctaaanta tnaagaata tggaaattta 420
 tccccaggaa tatgggggttc atttatgaat antacccggg anagaagttt tgantnaaac 480
 cngtttttgt taatacgtta atatgtcttn aatnaacaag gcntgactta ttccaaaaaa 540
 aaaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccaacccctc tattttcaga 60
 ggggaaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct 120
 cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggcctgtttt 180
 gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtacta 240
 aggttaaacct ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac 300
 tcttctaagt cctcttccag cctcactttg agtcctcctt gggggttgat aggaantctc 360
 tcttggtttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gctcaaaaat 420
 gctgaaaaaa ttaaaatgtt ctgggtttcnc tttaaaaaaa aaaaaaaat aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 81
 ttttttttg tatgccttcn ctgtggngtt attgttgcct ccacctgga ggagccagc 60
 ttctttctga tctttctttt ctgggggagc ttcttggtct tgcctctcca ttcccagcct 120
 ctcatccca tcttgcactt ttgctagggt tggaggcact ttcttggtag cccctcagag 180
 actcagtcag cgggaataag tcttaggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (383)
 <223> n = A,T,C or G

<400> 82
 agggggggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgccc 60
 agtaccagta ccaataacat gccagtgccc gtgccagcac cagtggtggc ttacagtgtg 120
 gtgcccagcct gaccgccact ctacacatttg ggctcttcgc tggccttggt ggagctggtg 180
 ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtggat tttagatatt 240
 gttaatcctg ccagtccttc cttccaagcc aggggtgcac ctccagaaac tactcaaac 300
 agcaactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aactctattg 360
 ccaattccaaa aaaaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (494)
 <223> n = A,T,C or G

<400> 83
 accgaattgg gacgcgtggt ttataagcga tcatgtcttc cagtattacc tcaacgagca 60
 gggagatcga gtctatatgc tgaagaaatt tgaccgatg ggacaacaga cctgtccagc 120
 ccatcctgct oggttctccc cagatgacaa ataactctga cacogaatca ccatcaagaa 180
 aogottcaag gtgtccatga ccagcaacc gcgcctgtc ctctgagggc cottaacctg 240
 atgtcttttc tgcacactgt taccctctgg agactcctga acccaactct tgggaactgt 300
 agccctgatg cttttttgac agccatactc tttggctccc agtctctcgt ggcgattgat 360
 tatgottgtg tgaggcaatc atggtggcat caccatnaa gggaacacat ttganttttt 420
 tttcncatat ttttaattac naccagaata ntccagaata aatgaattga aaaactctta 480
 aaaaaaaaaa aaaa 494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (380)
 <223> n = A,T,C or G

<400> 84
 gctggtagcc tatggcgtgg ccacggangg gctcctgagg cacgggacag tgacttccca 60
 agtatcctgc gcgcgtcttt ctaccgtccc taacctcaga tcttcgggca gatterccag 120
 gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggcttcttg 180
 gcacacctc ctggggccca ggggggcacc tgcgtctccc agtatgccaa ctggctggtg 240
 gtgtgtctcc ctgtcatctt cctgctcgtg gccaacatcc tgcgtggtcac ttgctcattg 300
 ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcgttncgg cctcatcggg 380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (481)
 <223> n = A, T, C or G

<400> 85
 gagtttagctc ctccacacac ttgatgaggt cgtctgcagt ggcctctcgc ttcctacccg 60
 tncctatcgct atactgtagg ttgcccacca cctcctgcat cttggggcgg ctaatatcca 120
 ggaaactctc aatcaagtoa ccgtcnatna aacctgtggc tggttctgtc tcccgctcgg 180
 tgtgaaagga totccagaag gagtgcctga tcttccccac acttttgatg actttattga 240
 gtcgattctg catgtccagc aggagggtgt accagctctc tgacagtga gtcaccagcc 300
 ctatcatgcr nttgaacgtg ccgaagaaca cogagccttg tgtggggggg gnagtctcac 360
 ccagattctg cattaccaga nagccgtggc aaaganaatt gacaactcgc ccaggnngaa 420
 aaagaacacc tcttggaagt gctngccgct cctcgtccnt tgggtggngc gcntnccctt 480
 t 481

<210> 86
 <211> 472
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (472)
 <223> n = A, T, C or G

<400> 86
 aacatcttcc tgtataatgc tgtgtaatat cgatccgatn ttgtctgctg agaattcatt 60
 acttggaaaa gcaacttnaa gcttggacac tggattaaaa attcacaata tgcaacactt 120
 taacacagtgt gtcaatctgc tcccttactt tgtcatcacc agtctgggaa taagggtatg 180
 cccatttcac acctgttaaa agggcgctaa gcatttttga ttcaacatct tcttttttga 240
 cacagtcctg aaaaaagcaa aagtaaacag tctntaatct gttagccnat tcaacttctt 300
 catgggacag agccatttga tttaaaaagc aaattgcata atattgagct ttgggagctg 360
 atatntgagc ggaagantag cctttctact tcaccagaca caactccttt catattggga 420
 tgttnacnaa agttatgtct cttacagatg ggatgctttt gtggcaatte tg 472

<210> 87
 <211> 413
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (413)
 <223> n = A, T, C or G

<400> 87
 agaaaccagt atctctnaaa acaacctctc atacctgttg gacctaatte tgbtgtggtg 60
 tgbtgtgtgg cgcataattat atagacgggc acatcttttt tacttttgta aaagcttatg 120
 cctcttttgg atctatatct gtgaaagtgt taatgatctg ccataatgtc ttggggacct 180
 ttgtctttctg tgtaaatggt actagagaaa acaacctatnc tatgagtcas tctagttngt 240
 tttattcgac atgaaggaaa tttccagaen acaaacctna caaacctctcc cttgactagg 300

```

ggggacaaag aaaagcanaa ctgaacatna gaaacaattn cctgggtgaga aattncataa 360
acagaatttg ggtngtatat tgaaananng catcattnaa acgttttttt ttt 413

```

```

<210> 89
<211> 448
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(448)
<223> n = A,T,C or G

```

```

<400> 88
cgcagcgggt cctctctatc tagctccagc ctctcgcttg ccccactccc cgcgtccgcg 60
gtccctagccn accatggcgg ggcccttgcg cgcctcgctg ccatcctggc 120
cgtggccctg gctgtgagcc cgcgggcggg ctccagtcce ggcaagccgc cgcgcctggg 180
gggaggccca tggaccccg cgtggaagaag aaggtgtgcg gcgtgcactg gactttgcgc 240
tcggcnanta caacaacccc gcaacnactt ttaccnagcn cgcgtgagc gtgtgcccgc 300
cccaancaaa ctgttactng gggtaantaa ttcttggag ttgaacctgg gccaaacnng 360
tttaccagaa ccnagccaat tngaacaatt nccctccat aacagccctt tttaaaaagg 420
gaancantcc tgnctctttt caaatttt 448

```

```

<210> 89
<211> 463
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(463)
<223> n = A,T,C or G

```

```

<400> 89
gaattttgtg cactggccac tgtgatggaa ccattgggccc aggatgcttt gagtttatca 60
gtagtgtatt tgcctaaagt ggtgttgtaa catgagtatg taaaatgtca aaaaatttagc 120
agaggtctag gtctgcatac cagcagacag tttgtccgtg tattttgtag ccttgaagtt 180
ctcagtgaca agttnntct gatgcgaagt tctnattcca gtgttttagt cctttgcctc 240
tttnatgttn agacttgcct cttnnaaatt gcttttgtnt tctgcaggta ctatctgtgg 300
tttaacraaa tagaannact tctctgcttn gaanatttga atatottaca cctnaaaatn 360
aattctctcc ccataanna acccangccc ttggganaat ttgaaaaang gntccttcnn 420
aattcnmana anttcagntn tcatacaaca naacngganc ccc 463

```

```

<210> 90
<211> 400
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(400)
<223> n = A,T,C or G

```

```

<400> 90
agggattgaa ggtctntnt actgtcggac ttttcaccca ccaactctac aagttgtctg 60
cttccactca ctgtctgtaa gcntnttaac ccagactgta tcttcataaa tagaacbaat 120
tcttcaccag tcacatcttc taggacottt ttggattcag ttagcataag ctottccact 180
toctttgtta agacttcctc tggtaaagtc ttaagttttg tagaaaggaa tttaatctgt 240

```

cgttctctaa	caatgtcttc	tccttgaagt	atttggctga	acaacccacc	tnaagtccct	300
ttgtgcatcc	atttkaata	tacttaatat	ggcattggtn	cactagggtta	aattctgcaa	360
gagtcactctg	tctgcaaaag	ttgogttagt	atatctgcca			400

<210> 91
 <211> 480
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(480)
 <223> n = A,T,C or G

<400> 91	
gagctcggat	ccaataatct ttgtctgagg gcagcacaca tatncagtgc catggnaact 60
ggctcaccoc	acatggggagc agcatgccgt agntatataa ggtcattccc tgagtcagac 120
atgcctcttt	gactacogtg tgccagtgcg ggtgattctc acacacctcc nncogctctt 180
tgtggaaaaa	ctggcacttg nctggaaacta gcaagacatc acttacaat tcacccacga 240
gacacttgaa	aggctgaaca aagcgactct tgcaattgctt tttgtccctc cggcaccagt 300
tgtaataact	aacccgctgg tttgcctcca tcacatttgt gatctgtagc tctggataca 360
tctcctgaca	gtactgaaga acttctctctt ttgtttcaaa agcaactctt ggtgcctgtt 420
ngatcagggt	ccaatttccc agtccgaatg ttcacatggc ataenttact tcccacaaaa 480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92	
atacagccca	natcccacca cgaagatgog cttgttgact gagaacctga tgcggtcact 60
ggctcogctg	tggccccagc gactctccac ctgcttggag cggttgatgc tgcactcctt 120
cccacgcagg	cagcagcggg gccgggtcaat gaactccact cgtggcttgg ggttgacggg 180
taantgcagg	aagaggctga ccacctcgog gtccaccagg atgcccgact gtgcgggacc 240
tgcagcgaaa	ctcctcgatg gtcabtagog ggaagcgaat gangcccagg gccttgccca 300
gaaccttcog	cctgttctct ggcgctcaet gcagctgctg ccgctnacac tgggcctcgg 360
accagcggac	aaacggcggt gaacagccgc acctcacgga tgcccantgt gtcgcgctcc 420
aggaaocgcn	ccagcgtgtc caggtcaatg tcggtgaanc ctccgogggt aatggcg 477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 93	
gaacggctgg	accttgcttc gcattgtgct gctggcagga ataccttggc aagcagctcc 60
agtccgagca	gccccagacc gctgcgcgcc gaagctaaag ctgcctctgg ccttcccttc 120
cgcctcaatg	cagaaccant agtgggagca ctgtgtttag agttaagagt gaacactgtt 180

tgattttact	tgggaatttc	ctctgttata	tagettttcc	caatgcta	ttccaaacaa	240
caacaacaaa	ataacatgtt	tgctgtttna	gttgatataa	agcangtgat	tctgtatnta	300
aagaaatlat	tactgttaca	tatactgttt	gcaantttctg	tatttatgtg	tnctctggaa	360
ataaatatat	tattaaa					377

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94						
ccctttgagg	gggttagggtc	cagttcccag	tggaaagaaac	aggccaggag	aantgogtgc	60
cgagctgang	cagatbtccc	acagtgaccc	cagagccctg	gggtatagtc	tctgacccct	120
ccaaggaaag	accaccttct	ggggacatgg	gctggagggc	aggacctaga	ggcaccagg	180
gaaggcccca	ttccggggct	gttccccgag	gaggaaggga	aggggctctg	tgtgcccccc	240
acgagggaana	ggccctgant	cctgggatac	nacacccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaagggtccc	ctctcagter	cttcccacac	ccctgaaagg	ncactggccc	360
acaccacccc	agancancca	cccgccatgg	ggaatgttct	caagggaatcg	cngggcaacg	420
tggactctng	tcccnnaagg	gggcagaatc	tccaatagan	ggaanngaacc	cttgcctnana	480
aaaaaaaaana	aaaaa					495

<210> 95
 <211> 472
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(472)
 <223> n = A,T,C or G

<400> 95						
ggttacttgg	tttcaattgc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgtct	60
cctctggaag	ccttgogcag	agcggacttt	gtaattgttg	gagaataaact	gctgaatttt	120
tagctgtttt	gagttgatcc	gcaccaactgc	accacaactc	aatatgaaaa	ctattttnact	180
tatttattat	cttctgaaaa	gtatacaatg	aaaattttgt	tcatactgta	tttatcaagt	240
atgatgaaaa	gcaatagata	tataattcttt	tattatgttn	aattatgatt	gccattatta	300
atcggcaaaa	tgtggagtgt	atgttcctttt	cacagtaata	tatgcctttt	gtaacttcaa	360
ttggttattt	tattgtaaat	gaattacaaa	attcttaatt	taaggaaatg	gtangttata	420
ttanhtcan	taattttctt	ccttgtttac	gttaattttg	aaaagaatgc	at	472

<210> 96
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 96						
ctgaagcatt	tcttcaaaact	tnctactttt	tgtcattgat	acctgtagta	agttgacaat	60


```

gtgggtgaaat ttcaaaatta tatgttaactt ctactagttt tactttctcc cccaagtcctt 120
ttttaactca tgattttttac acacacacac cagaacttat tatatagcct ctaagtcctt 180
attcttcaca gtatgtgatg aaagagtcctt ccagtgctct gngcanaatg ttctagntat 240
agctggatac atacngtggg agttctataa actcatacct cagtgggact naaccsaaat 300
tgtgttagtc tcaattccta ccacactgag ggagcctccc aaatcactat attcttatct 360
gcaggtaactc ctccagaaa acngacaggg caggcttgca tgaaaaagtn acatctgogt 420
tacaagttct atcttctcca nangtctgtn aaggaaceat ttaattctct agcttt 476

```

```

<210> 97
<211> 479
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{479}
<223> n = A,T,C or G

```

```

<400> 97
actctttcta atgtgatat gatcttgagt ataagaatgc atatgtcact agaattggata 60
aaataatgct gcaaaactta tggtcttatg caaatgggaa cgctaactga acacagctta 120
caatcgcaaa tcaaaaactca caagtgttca tctgttgtag atttagtgta ataagactta 180
gattgtgctc cttcggatata gattgtctct canatcttgg gcaatntccc ttagtcaaat 240
caggctacta gaattctggt atbggatatn tgagagcatg aaattttttaa naatacactt 300
gtgattatna aattaatcac aaatttcaat tatacctgct atcagcagct agaaaaaat 360
ntnnttttta natcaaaagta ttttgtgttt ggaantgttn aaatgaaatc tgaatgtggg 420
ttmatotta ttttttcccn gacnaactant tnttttttta gggnetatto tganccatc 476

```

```

<210> 98
<211> 461
<212> DNA
<213> Homo sapien

```

```

<400> 98
agtgaacttgt cctccaacaa aaccccttga tcaagtttgt ggcactgaca atcagacctg 60
tgctagtter tgcctatctat tcgctactaa atgcagactg gaggggacca aaaggggca 120
tcaactocag ctggattatt ttggagcctg caaatctatt cctacttgta cggactttga 180
agtgattcag ttctctctac ggatgagaga ctggctcaag atatctctca tgcagcttta 240
tgaagccact ctgaacaggg ttggttatcta gatgagaaca gagaataaaa gtccagaaat 300
ttactctggag aaaagaggct ttggctgggg accatcccat tgaaccttct ctttaaggact 360
ttaagaaaaa ctaccacatg ctgtgtatcc tgggtcgoggo cgtttatgaa ctgaccaccc 420
tttggaaata tcttgagct cctgaacttg ctctctbgcg a 461

```

```

<210> 99
<211> 171
<212> DNA
<213> Homo sapien

```

```

<400> 99
gtggcgcgcc gcagggtgtt cctcgtaacc caggggcccc tcccttcccc aggrgtccct 60
cggcgctct gcgggcccga ggaggagcgg ctggcggggtg gggggagtgt gacccacct 120
cggtgagaab agccttctct agcatctga gaggcgtgcc ttgggggtac c 171

```

```

<210> 100
<211> 269
<212> DNA
<213> Homo sapien

```

<400> 100

cgggcgcgaag	tgcaactcca	gctggggccg	tgcggaacgaa	gattctgccca	gcagttgggtc	60
cgactgcgac	gacggcggcg	gcgacagtcg	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaggctgagc	tgacgcgcga	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaaac	agagcccggt	gaagcgggag	gcctcgggga	gcacctcggg	aagggcgggc	240
cgagagatac	gcaggtgcag	gtggccgccc				269

<210> 101

<211> 405

<212> DNA

<213> Homo sapien

<400> 101

tttttttttt	ttttgggaac	tactgcgagc	acagcaggtc	agcaacaagt	ttatttttga	60
gctagcaagg	taacagggta	gggcattggt	acatgttccg	gtcaacttcc	tttgtcgtgg	120
ttgattgggt	tgtctttlatg	ggggcggggt	ggggtagggg	aaacgaagca	aataacatgg	180
agtgggttga	ccctccctgt	agaacctggt	tacaaagctt	ggggcagttc	acctggtctg	240
tgacctgcac	tttcttgaca	tcaatgttat	tagaagtcag	gatatacttt	agagagtcca	300
ctgtttctga	gggagattag	ggtttcttgc	caaatccaac	aaatccact	gaaaaagtgt	360
gatgatcagt	acgaataccg	aggcatattc	tcatatcggc	ggcca		405

<210> 102

<211> 470

<212> DNA

<213> Homo sapien

<400> 102

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
ggcaacttaac	ccattttttat	ttcaaaatgt	ctacaaatct	aatcccatta	taagggtattt	120
tcaaaatccta	aattatctcaa	attagccaaa	tccttaccaa	ataataccca	aaaatcaaaa	180
atatacttct	ttcagcaaac	ttgttacata	aattaaaaaa	atatatacgg	ctgggtgtttt	240
caaagtacaa	ttatctttaac	actgcaaaac	tttcaaggaa	ctaaaataaa	aaaaaacact	300
ccgcaaaagg	taaagggaac	aaacaaattct	ttacacacac	cattataaaa	atcatatctc	360
aaatctttagg	ggaatctata	cttcacacgg	gatcttaact	tttactcaact	ttgttttattt	420
ctttaaacca	ttgttttgggc	ccaacacaaat	ggaatccccc	ctggactagt		470

<210> 103

<211> 581

<212> DNA

<213> Homo sapien

<400> 103

tttttttttt	tttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttatttttact	60
tacacatatt	tattttatata	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgcottaga	tacataatto	ttaggaatta	gcttaaaaac	tgccataaagt	180
gaaatcttct	cttagctctt	ttgaactgtac	atttttgact	cttgtaaaaac	atccaaattc	240
atttttcttg	cttttaaaat	tatctaatct	ttccattttt	ttccattttc	aagtcaattt	300
gcttctctag	ctcattttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaaca	ggaagagaaa	tggcacacaa	aaacaaacatt	ttatattcat	atttctacct	420
aogttaataa	aatagcattt	tgtgaagcca	gctcaaaaaga	aggcttagat	cttttttatgt	480
ccatttttagt	cactaaacga	tatcaaagtg	ccagaatgca	aaagggttgt	gaacatttat	540
tcaaaagcta	atataagata	tttcacatac	tcactcttct	g		581

<210> 104

<211> 578

<212> DNA

<213> Homo sapien

<400> 104

tttttttttt	tttttttttt	tttttttttt	cttttttttt	gaaatgagga	togagtcttt	60
cactctctag	atagggcatg	aagaaaaatc	atctttccag	ctttaaaaata	acaatcaaat	120
ctctctatgt	atctcatatt	ttaagttaaa	ctaatgagtc	actggcttat	cttctcctga	180
aggaatcttg	ttcattcttc	tcattcatac	agttatatca	agtactacct	tgcataattga	240
gagggttttt	ttctctattt	acacatatat	ttccatgtga	atbtgtatca	aacotttatt	300
ttcatgcaaa	ctagaaaaata	atgtttcttt	tgcataagag	aagagaaaca	tatagcatta	360
caaaactgct	caaatctgtt	gttaagttat	ccattataat	tagttggcag	gagctaatac	420
aaatcacatt	tacgacagca	ataataaaac	tgaagtacca	gttaaatatc	caaaataaatt	480
aaaggaacat	ttttagcctg	ggtataatta	gctaattcac	cttacaagca	tttactagaa	540
tgaattcaaa	tgttattatt	cttagcccaa	cacaatgg			578

<210> 105

<211> 538

<212> DNA

<213> Homo sapien

<400> 105

tttttttttt	tttttcagta	ataatcagaa	caatatttat	ttttatattt	aaaattcata	60
gaaaagtgcc	ttacatttaa	taaaagtttg	ttctctaaaag	tgatcagagg	aattagatat	120
gtcttgaaac	ccaatattaa	tttgaggaaa	atacaccnaa	atacattaag	taaattattt	180
aagatcatag	agcttgtaag	tgaagaagata	aaatttgacc	tcagaacctc	tgagcatcaa	240
aaatccacta	ttagcaaaata	aattactatg	gacttcttgc	tttaattttg	tgatgaatat	300
ggggtgtcac	tggtaaaacca	acacattctg	aaggatacat	tacttagtga	tagattctta	360
tgtactttgc	taatacgttg	atatgagttg	acaagtttct	ctttcttcaa	ctctttaagg	420
ggcgagaaat	gagggaagaaa	agaaaaggat	tacgcatact	gttctttcta	tggaaggatt	480
agatatgttt	cttttgccaa	tattaaaaaa	ataataatgt	ttactactag	tgaaaccc	538

<210> 106

<211> 473

<212> DNA

<213> Homo sapien

<400> 106

tttttttttt	tttttttagtc	aagttttctat	ttttattata	attaaagtct	tggtcatttc	60
atttatttagc	tctgcaactt	acattattta	attaaagaaa	cgttttagac	aactgtacaa	120
tttataaatg	taagggtgcca	ttattgagta	atataattct	ccaagagtgg	atgtgtccct	180
tctcccacca	actaatgaac	agcaacatta	gtttaatttt	attagttagat	atacactgct	240
gcaaacgcta	attctcttct	ccatccccat	gtgatattgt	gtatatgtgt	gagttggtag	300
aatgcatcac	aactctcaat	caacagcaag	atgaagctag	gctgggcttt	cgggtgaaat	360
agactgtgtc	tgtctgaatc	aaatgatctg	acctatctc	ggtggcaaga	actcttcgaa	420
ccgttctctc	aaaggcgctg	ccacatttgt	gggtcttttg	acttgtttca	aaa	473

<210> 107

<211> 1621

<212> DNA

<213> Homo sapien

<400> 107

cgccatggca	ctgcaggcca	tctcggtcat	ggagctgtcc	ggcctggccc	cgggcccgtt	60
ctgtgctatg	gtcctggctg	acttcggggc	gcgtgtggta	cgcctgggac	ggcccggctc	120
crgctacgac	gtgagccgct	tgggcccggg	caagcgctcg	ctagtgtctg	acctgaagca	180
gcgcggggga	gcgcgcgtgc	tgcggcgctc	gtgcaagcgg	tcggatgtgc	tgctggagcc	240
cttcgcgcgc	ggtgtcatgg	agaaaactca	gctgggcccc	gagattctgc	agcgggaaaa	300
tccaaaggctt	atttatgccaa	ggctgagtg	atttggccag	tcagggaagct	tctgcgggtt	360
agctggccac	gatataaact	atttggcttt	gtcagggtgt	ctctcaaaaa	ttggcagaag	420
tggtagaagt	cgtatgcc	cgtgaatct	cctggctgac	tttgcctggc	gtggccttat	480
gtgtgcaatg	ggcattataa	tggctctttt	tgaccgcaca	cgcactgaca	agggctcaggc	540

```

cattgatgca aatattggtgg aaggaaacagc atattttaagt tttttttctgt ggaaaactca 600
gaaatcgagt ctgtgggaag cacttcgagg acaggaacatg ttggatggtg gagcaaccttt 660
ctataogact tacaggacag cagatgggga attcatggct gtggagcaa tagaaccoca 720
gttctacgag ctgctgatca aaggacttgg actaaagtct gatgaacttc ccaatcagat 780
gagcatggat gattggccag aatgaagaa gaagtcttga gatgtatttg caaagaagac 840
gaaggcagag tgggtcaca tctttgacgg cacagatgcc tgtgtgaetc cggttctgac 900
ttttgaggag gttgttcac atgcatcaca caaggaaagg ggtctgttta ccaccagtga 960
ggagcaggac gtgagccccc gccctgcacc tctgctgtta aacacccccc ccatcccttc 1020
tttcaaaagg gatcctttca taggagaaca cactgaggag atacttgaag aatttggatt 1080
cagcccgcaa gagatttata agcttaactc agataaaatc attgaaagta ataaggtaaa 1140
agctagcttc taacttcacg gccacgggt caagtgaatt tgaatactgc atttacagtg 1200
tagagtaaca cataacattg tatgcatgga aacatggagg aacagtatta cagtgtccta 1260
ccactcta atcagaaaaga attacagact ctgattctac agtgatgat gaattctaaa 1320
aatgggttat attagggctt ttgatttata aaactttggg tacttatact aaattatggt 1380
agttattctg ccttccagtt tgccttgatat atttgttgat attaagattc ttgacttata 1440
ttttgaatgg gttctagtga aaaggaatg atatatctt gaagacatcg atatacatct 1500
atttaccctc ttgattctac aatgtagaaa atgaggaaat gccacaaatt gtatggtgat 1560
aaagtcacg tgaacaaaa aaaaaaaab aaaaaaaab aaaaaaaab aaaaaaaab 1620
a

```

```

<210> 108
<211> 382
<212> PRT
<213> Homo sapien

```

```

<400> 108
Met Ala Leu Gln Gly Ile Ser Val Met Glu Leu Ser Gly Leu Ala Pro
1 5 10 15
Gly Pro Phe Cys Ala Met Val Leu Ala Asp Phe Gly Ala Arg Val Val
20 25 30
Arg Val Asp Arg Pro Gly Ser Arg Tyr Asp Val Ser Arg Leu Gly Arg
35 40 45
Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
50 55 60
Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
65 70 75 80
Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
85 90 95
Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
100 105 110
Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
115 120 125
Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
130 135 140
Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Leu Met Cys
145 150 155 160
Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
165 170 175
Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
180 185 190
Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
195 200 205
Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
210 215 220
Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
225 230 235 240
Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
245 250 255

```

Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
 260 265 270
 Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
 275 280 285
 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
 290 295 300
 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
 305 310 315 320
 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Asn Thr Pro Ala
 325 330 335
 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
 340 345 350
 Ile Leu Glu Glu Phe Gly Phe Ser Arg Glu Glu Ile Tyr Gln Leu Asn
 355 360 365
 Ser Asp Lys Ile Ile Glu Ser Asn Lys Val Lys Ala Ser Leu
 370 375 380

<210> 109
 <211> 1524
 <212> DNA
 <213> Homo sapien

<400> 109
 ggcaagagggc tgggccaggc cctgagcggc ggcggggggc gcttcgccag cggggggcccc 60
 gggectggcc atgectcaet gagccagggc ctgggectct acctggccga cagctgggaa 120
 cagtgcgacc tagtggetct caectgcttc ctctggggcg tgggctggcg gctgaccccc 180
 ggtttgtagc acctggggcg cactgtcttc tgcctcgact tcatggtttt cactggcgcg 240
 ctgcttcaca tcttcacggt caacaaacag ctggggccca agatcgtoat cgtgagcaag 300
 atgatgaagg agtggttctt ctctctcttc tctctggcg tgtggctggt agcttatggc 360
 gtggccacgg aggggtctct gagggccagg gacagtgaat tcccaagtat cctgcgcgcg 420
 gtctcttacc gtccctacct gcagatcttc gggcagattc cccaggagga catggacgtg 480
 gccctcatgg agcacagcaa ctgctogtog gagcccggtt tctgggcaca cctcctggg 540
 gcccaggcgg gcacctgcgt ctcccagtat gccaaactgg tgggtggtgct gctcctctg 600
 atcttctgca tctgtggcaa catctgtctg gtcaacttgc tcattgccat gttcagttac 660
 acattogcca aagtaacagg caacagcgat ctctactgga aggcgcagcg ttacogctc 720
 atccgggaat tccactctcg gcccgcgctg gcccgccctt ttatctgat ctcccaattg 780
 cgcctctgca tcaggcaatt gtgcaggcga ccccgaggcc cccagccgct ctcccggcc 840
 ctgagcatt tccgggttta cctttctaag gaagccgagc ggaagctgct aacgtgggaa 900
 tcgggtgata aggagaactt tctgctggca cgcgttaggg acaagoggga gagcgactcc 960
 gagcgtctga agcgacgct ccagaaggtg gacttgagac tgaacacagc gggacacatc 1020
 cgcgagtagc aacagcgctt gaaagtgtct gagcgggagg tccagcagtg tagccgctc 1080
 ctgggggtgg tggccgaggg cctgagccgc tctgccttgc tggcccccag tgggcccga 1140
 cccctgacc tgcctgggtc caaagactga gccctgctgg cggacttcaa ggagaagccc 1200
 ccacagggga ttttgcctct agagtaaggg tcatctgggg ctgggcccc gcacctggtg 1260
 gccctgtctt tgaggtgagc cccatgtcca tctgggcac tgtcaggacc accttggga 1320
 gtgtcatctt tacaaccac agcatgccc gctctccca gaaccagtc cagcctggga 1380
 ggatcaaggc ctggtatccc ggcggttato catctggagg ctgcagggtc ctgggggtaa 1440
 cagggaccac agacccctca ccactcacag attcctcaca ctgggggaaat aaagccattt 1500
 cagaggaaaa aaaaaaaaaa aaaa 1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110
 gggaaaccagc ctgcacggcg tggctccggg tgacagccgc gggcctcgcc caggatctga 60
 gtgatgagac gtgtcccccac tgaggtgccc cacagcagca ggtgttgagc atgggctgag 120

aagctggacc	ggcaccacag	ggctggcaga	aatggggcgc	tggctgattc	ctaggcagtt	180
ggcggcagca	aggaggagag	gocgcagctt	ctggagcaga	gocgagacga	agcagttctg	240
gagtgccctga	acggcccccct	gagccctacc	cgccctggcc	actatggtcc	agaggctgtg	300
ggtaggcggc	ctgctgcggc	accggaaagc	ccagctcttg	ctggtcaacc	tgctaaccctt	360
tggcctggag	gtgtgttttg	cgcgagggcat	caactatgtg	cgcctctctg	tgctggaagt	420
gggggtagag	gagaagtcca	tgaccatggg	gctgggcatt	ggtccagtgc	tgggcctggg	480
ctgtgtcccg	ctcctaggct	cagccagtga	ccactggcgt	ggaogctatg	gocgcgcgcg	540
gccccttcac	tgggcaactgt	ccttgggcct	cctgctgagc	ctctctctca	tcccaggggc	600
cggtcggcta	gcagggtctgc	tgtgcccgga	tcccaggccc	ctggagctgg	cactgctcat	660
cctggcgctg	gggctgctgg	actctgtgtg	ccagggtgtg	tccaactcac	tggaggccct	720
gctctctgac	ctcttcgggg	accgggacca	ctgtcggcag	gectactctg	tctatgcctt	780
catgatcagt	cttgggggct	gcctgggcta	cctcctgcct	gocattgact	gggacaccag	840
tgccttggcc	ccctacotgg	gcacccaggga	ggagtgcctc	tttggcctgc	tcacccctcat	900
cttccctcac	tgcgtagcag	ccacactgct	ggtaggctgag	gaggcagcgc	tgggccccac	960
cagcgcagca	gaagggtctgt	cggcccccctc	cttgtcggcc	caetgctgtc	catgcggggc	1020
cgccttggct	ttccggaaacc	tgggcgcctt	gcttcccggg	ctgcaccagc	tgtgctgcgc	1080
catgccccgc	accctgcgcc	ggctcttctg	ggctgagctg	tgcagctgga	tggcactcat	1140
gaccttcacg	ctgtttttaca	cggatttctg	gggocagggg	ctgtaccagg	gogtgcccag	1200
agctgagccg	ggcaccgagg	cccggagaca	ctatgatgaa	ggcgttcgga	tgggcagcct	1260
ggggctgttt	ctgcagtgcg	ccatctccct	ggtcttctct	ctggtcatgg	accggcttgt	1320
gcagcgattc	ggcactcgag	cagctctatt	ggccagtgct	gcagctttcc	ctgtggctgc	1380
cggtagccaca	tgcctgtccc	acagtgtggc	cgtggtgaca	gcttcagccg	ccctcacogg	1440
gttcaacttc	tcagccctgc	agatccctgc	ctacacactg	gcttccctct	accacgggga	1500
gaagcaggtg	tccctgcccc	aataccgagg	ggacactgga	ggtgctagca	gtgaggacag	1560
cctgatgacc	agcttcctgc	caggccctaa	gcctggagct	cccttcctca	atggacaagt	1620
gggtgctgga	ggcagtggtc	tgtctccacc	tccaccccg	ctctgcgggg	cctctgcctg	1680
tyatgtctcc	gtacgtgtgg	tggtaggtga	gcccaccgag	gcccagggtg	ttccggggcg	1740
gggcattctg	ctggacctcg	ccatccctga	tagtgccctc	ctgctgtccc	agggtggccc	1800
atccctgttt	atgggtccca	tgtccagct	cagccagctc	gtcaactgct	atatggtgtc	1860
tgcgcaggcc	ctgggtcttg	tgcacattta	ctttgctaca	caggtagtat	ttgacaagag	1920
caacttggcc	aaatactcag	cgtagaaaaa	ttccagcaca	ttggggtgga	gggcctgcct	1980
cactgggtcc	cagctccccc	ctcctgttag	cccctggggg	ctgcggggct	ggccgctcag	2040
ttctgttgtt	gccccagtaa	tgtggctctc	tgttgccacc	ctgtgctgct	gaggtgcgta	2100
gctgcacagc	tgggggctgg	ggcgtccctc	tctctctctc	ccagtctcta	gggctgcctg	2160
actggaggcc	ttccaaaggg	gtttcagctc	ggacttatcc	agggaggcca	gaagggtccc	2220
atgcactgga	atgcggggac	tctgcagggt	gattaccacg	gctcagggtt	aacagctagc	2280
ctcctagtct	agacacacct	agagaagggt	ttttgggagc	tgaataaact	cagtcacctg	2340
gtttcccatc	tctaagcccc	ttaacctgca	gcttcgttta	atgtagctct	tgcattgggag	2400
ttctaggat	gaacaacccc	tccatgggat	ttgaacatat	gacttatctg	taggggaaga	2460
gtcctgaggg	gcaacacaca	agaaaccagg	cccctcagcc	cacagcactg	tctttttgct	2520
gatccacccc	cctcttaact	tttatcagga	tgtggcctgt	tggctcctct	gttgcaccca	2580
cagagacaca	ggcatttaaa	tatttaactt	atttatttaa	caaagttagaa	gggaatccat	2640
tgttagcttt	tctgtgttgg	tgtctaatat	ttgggtaggg	tgggggatcc	ccaacaatca	2700
ggtcccccga	gatagctggg	cattgggctg	atcattgcca	gaatcttctt	ctcctggggg	2760
ctggccccc	aaaatgccta	accacaggac	ttggaaatte	tactcatccc	aaatgataat	2820
tccaatgctc	gttaccacaag	gttaggggtg	tgaagggaag	tagagggtgg	ggcttcaggc	2880
ctcaacggct	tccctaacca	cccctcttct	cttggcccag	cctgggtccc	cccacttcca	2940
ctccccctca	ctctctctag	gactgggctg	atgaaggcac	tgcacaaaat	ttcccttacc	3000
cccaacttcc	ccctaccccc	aaactttccc	accagctcca	caacootgtt	tggagctact	3060
gcaggaccag	aagcacaag	tgcggtttcc	caagcctttg	tccatctcag	ccccagagt	3120
atatctgtgc	ttggggaatc	tcacacagaa	actcaggagc	accccctgcc	tgagctaaag	3180
gaggtcttat	ctctcagggg	gggttttaagt	gocgtttgca	ataatgtcgt	cttatcttat	3240
tagcggggtg	aatattctat	actgtaagtg	agcaatcaga	gtataatgtt	tatgggtgaca	3300
aaattaaagg	ctttcttata	tgttttaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3360
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	3410

<210> 111

<211> 1289

<212> DNA

<213> Homo sapien

<400> 111

```

agccaggcgt cctctgtcct gcccaactcag tggcaacacc cgggagctgt tttgtccttt      60
gtggagcctc agcagttccc tctttcagaa ctcaactgca agagccctga acaggagccc      120
ccatgcagtg cttcagcttc attaagacca tgatgatcct ctccaatttg ctcacatcttc      180
tgtgtggtgc agccctgttg gcagtgggca tctgggtgtc aatcgatggg gcacoccttc      240
tgaagatcct cgggcccactg tcgtccagtg ccatgcagtt tgcacacgtg ggctacttcc      300
tcategcagc cggcggtgtg gtctttgtct ttggttctct gggctgctat ggtgctaaga      360
ctgagagcaa gtgtgccctc gtgacgttct tcttcactct cctctcactc ttcattgctg      420
aggttgcagc tgctgtggtc gccttggtgt acaccacaat ggcctgagcac ttctgacgt      480
tgctggtagt gcctgccatc aagaaagatt atggttccca ggaagacttc actcaagtgt      540
ggaacaccac catgaaaggg ctcaagtgtc gtggcttcac caactatacg gattttgagg      600
actcacctta ctccaagag aacagtgcct tccccccatt ctggttgaat gacaaagtca      660
ccaacacagc caatgaacc tgcaaccaagc aaaaggctca cgacccaaaa gtagagggtt      720
gcttcaatca gcttttgtat gacatccgaa ctaatgcagt caccgtgggt ggtgtggcag      780
ctggaattgg gggcctogag ctggtgcaca tgattgtgtc catgtatctg tactgcaatc      840
tacaataagt ccacttctgc ctctgccact actgtgcaca catgggaact gtgaagaggg      900
accctggcaa gcagcagtg ttgggggagg ggaraggatc taacaatgtc actcgggcca      960
gaatggacct gccctttctg ctccagactt ggggctagat agggaccact ccttttagcg      1020
atgctgact ttccttccat tgggtgggtg atgggtgggg ggcattccag agcctctaag      1080
gtageccagtt ctggtgcccc tccccccagt ctattaaacc ctgatctgct cccctaggcc      1140
tagtggtgat cccagtgtct tactggggga tgagagaaag gcattttata gcttgggcat      1200
aagtgaatc agcagagcct ctgggtggat gtgtagaagg cacttcaaaa tgcataaacc      1260
tgttacaatg ttaaaaaaaaa aaaaaaaaaa

```

<210> 112

<211> 315

<212> PRT

<213> Homo sapien

<400> 112

```

Met Val Phe Thr Val Arg Leu Leu His Ile Phe Thr Val Asn Lys Gln
 1          5          10          15
Leu Gly Pro Lys Ile Val Ile Val Ser Lys Met Met Lys Asp Val Phe
 20          25          30
Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala
 35          40          45
Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu
 50          55          60
Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile Pro
 65          70          75          80
Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys Ser Ser
 85          90          95
Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala Gly Thr Cys
100          105          110
Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu Val Ile Phe
115          120          125
Leu Leu Val Ala Asn Ile Leu Leu Val Asn Leu Leu Ile Ala Met Phe
130          135          140
Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys
145          150          155          160
Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser Arg Pro Ala Leu
165          170          175
Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln
180          185          190
Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu

```

					195					200					205				
His	Phe	Arg	Val	Tyr	Leu	Ser	Lys	Glu	Ala	Glu	Arg	Lys	Leu	Leu	Thr				
					210					215					220				
Trp	Glu	Ser	Val	His	Lys	Glu	Asn	Phe	Leu	Leu	Ala	Arg	Ala	Arg	Asp				
					225					230					235				
Lys	Arg	Glu	Ser	Asp	Ser	Glu	Arg	Leu	Lys	Arg	Thr	Ser	Gln	Lys	Val				
					240					245					250				
Asp	Leu	Ala	Leu	Lys	Gln	Leu	Gly	His	Ile	Arg	Glu	Tyr	Glu	Gln	Arg				
					255					260					265				
Leu	Lys	Val	Leu	Glu	Arg	Glu	Val	Gln	Gln	Cys	Ser	Arg	Val	Leu	Gly				
					270					275					280				
Trp	Val	Ala	Glu	Ala	Leu	Ser	Arg	Ser	Ala	Leu	Leu	Pro	Pro	Gly	Gly				
					285					290					295				
Pro	Pro	Pro	Pro	Asp	Leu	Pro	Gly	Ser	Lys	Asp									
					300					305					310				
					315														

```
<210> 113
<211> 553
<212> PRT
<213> Homo sapien
```

	<400>	113														
Met	Val	Gln	Arg	Leu	Trp	Val	Ser	Arg	Leu	Leu	Arg	His	Arg	Lys	Ala	
1				5					10					15		
Gln	Leu	Leu	Leu	Val	Asn	Leu	Leu	Thr	Phe	Gly	Leu	Glu	Val	Cys	Leu	
			20					25					30			
Ala	Ala	Gly	Ile	Thr	Tyr	Val	Pro	Pro	Leu	Leu	Leu	Glu	Val	Gly	Val	
		35					40					45				
Glu	Glu	Lys	Phe	Met	Thr	Met	Val	Leu	Gly	Ile	Gly	Pro	Val	Leu	Gly	
	50					55					60					
Leu	Val	Cys	Val	Pro	Leu	Leu	Gly	Ser	Ala	Ser	Asp	His	Trp	Arg	Gly	
65					70				75					80		
Arg	Tyr	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Trp	Ala	Leu	Ser	Leu	Gly	Ile	
				85					90					95		
Leu	Leu	Ser	Leu	Phe	Leu	Ile	Pro	Arg	Ala	Gly	Trp	Leu	Ala	Gly	Leu	
			100					105					110			
Leu	Cys	Pro	Asp	Pro	Arg	Pro	Leu	Glu	Leu	Ala	Leu	Leu	Ile	Leu	Gly	
		115					120					125				
Val	Gly	Leu	Leu	Asp	Phe	Cys	Gly	Gln	Val	Cys	Phe	Thr	Pro	Leu	Glu	
	130					135					140					
Ala	Leu	Leu	Ser	Asp	Leu	Phe	Arg	Asp	Pro	Asp	His	Cys	Arg	Gln	Ala	
145					150					155				160		
Tyr	Ser	Val	Tyr	Ala	Phe	Met	Ile	Ser	Leu	Gly	Gly	Cys	Leu	Gly	Tyr	
				165					170					175		
Leu	Leu	Pro	Ala	Ile	Asp	Trp	Asp	Thr	Ser	Ala	Leu	Ala	Pro	Tyr	Leu	
			180					185					190			
Gly	Thr	Gln	Glu	Glu	Cys	Leu	Phe	Gly	Leu	Leu	Thr	Leu	Ile	Phe	Leu	
		195					200					205				
Thr	Cys	Val	Ala	Ala	Thr	Leu	Leu	Val	Ala	Glu	Glu	Ala	Ala	Leu	Gly	
	210					215					220					
Pro	Thr	Glu	Pro	Ala	Glu	Gly	Leu	Ser	Ala	Pro	Ser	Leu	Ser	Pro	His	
225					230					235					240	
Cys	Cys	Pro	Cys	Arg	Ala	Arg	Leu	Ala	Phe	Arg	Asn	Leu	Gly	Ala	Leu	
				245					250					255		
Leu	Pro	Arg	Leu	His	Gln	Leu	Cys	Cys	Arg	Met	Pro	Arg	Thr	Leu	Arg	
			260					265					270			
Arg	Leu	Phe	Val	Ala	Glu	Leu	Cys	Ser	Trp	Met	Ala	Leu	Met	Thr	Phe	
		275					280					285				

Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114
 <211> 241
 <212> PRT
 <213> Homo sapien

<400> 114
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
 1 5 10 15
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val
 20 25 30
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys
 115 120 125
 Asp Tyr Gly Ser Gln Glu Asp Phe Thr Gln Val Trp Asn Thr Thr Met

130		135		140
Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp				
145		150		155
Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn				
	165		170	
Asp Asn Val Thr Asn Thr Ala Asn Glu Thr Cys Thr Lys Gln Lys Ala				
	180		185	
His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile				
	195		200	
Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly				
	210		215	
Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu				
	225		230	
Gln			235	
				240

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115
 getctttctc tccctctctc tgaatttaast tctttcaact tgaattttgc aaggattaca 60
 catttcaactg tgatgtatat tgtgttgcaa aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttggtg aatccatctt gctttttccc cattggaact agtcattaac ccctctctga 180
 actggtagaa aaacatctga agagctagtc tctcagcctc tgacaggtga attggtggt 240
 tctcagaacc atttcaacca gacagcctgt ttctatcctg ttttaataaat tagtttgggt 300
 tctctacatg cataacaaac cctgctccaa tctgtccat aaaagtctgt gacttgaagt 360
 ttagtc 366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 116
 acaaagatga accatttccct atatttatagc aaaattaaaa tctaccogta ttctaattatt 60
 gagaaatgag atnaaacaca atnttatasa gtctacttag agaagatcaa gtgacctcaa 120
 agactttact attttcatat tttaagacac atgatttate ctatttttagt aaactgggtc 180
 atacgttaaa caaaggataa tgtgaacagc agagaggatt tgttggcaga aaatctatgt 240
 tcaatctnga actatctana tcacagacat ttctattcct ct 282

<210> 117
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 117

```

acacatgtog cttcaactgcc ttcttagatg cttctgggtca acatanagga acagggacca      60
tatttatcct ccttcctgaa acaattgcaa aataanacaa aatatatgaa acaattgcaa      120
aataaggcaa aatatatgaa acaacaggtc togagatatt ggaatcagc caatgaagga      180
tactgatccc tgatcactgt cctaatgcag gatgtgggaa ccagatgagg tcacctctgt      240
gaatgcccca gcttactgac tgtagagagt ttctangctg cagttcagac agggagaaat      300
tgggt                                           305

```

<210> 118

<211> 71

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(71)

<223> n = A,T,C or G

<400> 118

```

acaaagggtgt ntgaatctct gaagtgggga tctctgatto ccgcacactc tgagtggaaa      60
aatcctctggg t                                           71

```

<210> 119

<211> 212

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(212)

<223> n = A,T,C or G

<400> 119

```

actcgggttg gtgtcagcag cactgtggcat tgaacatngc aatgtggagc ccaaacccaca      60
gaaaatgggg tgaattggc caactctctc tnaacttatg ttggcaantt tggcaccacac      120
agtaagctgg ccttctaat aaaagaaaat tgaagggttt ctcaactaac ggaattaant      180
aatggantcc aganactccc aggcctcagc gt                                           212

```

<210> 120

<211> 90

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(90)

<223> n = A,T,C or G

<400> 120

```

actcgttgca natcaggggc ccccagagt caccgttgca ggagtccttc tgggtcttgcc      60
ctccgcgggc gcagaacatg ctggggtggg                                           90

```

<210> 121

<211> 218

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (218)

<223> n = A,T,C or G

<400> 121

tgtanogtga	anaogacaga	naggggtgtc	aaaaatggag	aanccttgaa	gtcattttga	60
gaataagatt	tgctaaaaga	tttggggcta	aaacatgggt	attgggagac	atttctgaag	120
atatncangt	aaattangga	atgaattcat	ggttcttttt	ggaaattcctt	taogatngcc	180
agcatanact	testgtgggg	atancagcta	cccttgta			218

<210> 122

<211> 171

<212> DNA

<213> Homo sapien

<400> 122

taggggtgta	tgcaactgta	aggacaaaaa	ttgagactca	actgggttaa	ccaataaagg	60
catttggttag	ctcatgggac	aggaagtcgg	atgggtgggg	atcttcagtg	ctgoatgagt	120
caccaccccg	gcgggggtcat	ctgtgccaca	ggtcctgtgt	gacagtgccg	t	171

<210> 123

<211> 76

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (76)

<223> n = A,T,C or G

<400> 123

tgtagogtga	agacnacaga	atgggtgtgt	ctgtgtctatc	cagggaacaca	tttattatca	60
ttatcaanta	ctgtgt					76

<210> 124

<211> 131

<212> DNA

<213> Homo sapien

<400> 124

acctttcccc	aaggccaatg	tctgtgtgtc	taactggccg	gctgcaggac	agctgcaatt	60
caatgtgctg	ggtcatatgg	aggggaggag	actctaaaat	agccaatttt	attctcttgg	120
ctaagatttg	t					131

<210> 125

<211> 432

<212> DNA

<213> Homo sapien

<400> 125

acttttatcta	ctggctatga	aatagatgg	ggaaaaatgc	gttaccact	ataccactgg	60
cttgaaaaag	aggtgatagc	tcttcagagg	acttgtgact	tttgctcaga	tgctgaagaa	120
ctacagtctg	cattttggcag	aatgaaagat	gaatttggat	taaatagagga	tgctgaagat	180
ttgcctcacc	aaacaaaagt	gaaacaactg	agagaaaaat	ctcaggaaaa	aagacagtgg	240
ctcttgaagt	atcagtcact	tttgagaatg	tttcttagtt	actgcatact	tcattggatcc	300
catgggtggg	gtcttgcatc	tgtaagaatg	gaattgattt	tgcttttgca	agaatctcag	360
caggaaacat	cagaaccact	attttctagc	cctctgtcag	agcaaacctc	agtgcctctc	420
ctctttgctt	gt					432

<210> 126
 <211> 112
 <212> DNA
 <213> Homo sapien

<400> 126
 acacaacttg aatagtaaaa tagaaactga gctgaatttt ctatknact ttctaacat 60
 agtaagaatg atatttccc ccagggatca ccaantattt ataaaaattt gt 112

<210> 127
 <211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaac cacaaacaag atggaagcat caatccactt gccaaacaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 accatcattag taattgtttt gttgtttcat ttttttttaa tgtctccctt ctaccagctc 60
 acccgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120
 tttctcttga agtctaggtt acccattttg gggacccatt ataggcaata aacacagttc 180
 ccaaaagcatt tggacagttt cttgtttgtg tttagaatgg ttttcccttt tcttagcctt 240
 ttcctgcaaa aggtcactc agtcccttgc ttgtcagtg gactgggctc cccagggcct 300
 aggtgcctt cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129
 acatacatgt gtgtatattt ttaaatatca cttttgtatc accctgactt tttagcatatc 60
 tgaaaacaca ctacataat ttntgtgac catgatcaga tacaacccaa atcattcatc 120
 tagccattc atctgtgata naagatagg tgagtttcat ttccttcaag ttggccaatg 180
 gataaacaaa gt 192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130
 cccctttttta tggaaatgagt agactgtatg ttgaaanatt tanccacaac ctctttgaca 60

```

tataatgacg caacaaaaag gtgctgttta gtccatggg tcagtttatg cccctgacaa 120
gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa 180
ttctgtatto cattttgtta acgcctggta gatgtaacct gctangaggg taactttata 240
cttatttcaa agctcttatt ttgtggteat taaaatggca atttatgtgc agcctttat 300
tgcagcagga agcaggtgtg ggttggttgc aaagctcttt gctaatttta aaaagtaatg 360
gg 362

```

```

<210> 131
<211> 332
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(332)
<223> n = A,T,C or G

```

```

<400> 131
ctttttgaaa gatcgtgtcc actcctgtgg acatcttgtt ttaatggagt tttccatgca 60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga 120
gttctcccag gttcgccttg ctgctccaag tctcagcagc agcctctttt aggaggcatc 180
ttctgaacta gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atccaaacta 240
cttccatctg ttatcactgg agaaagccca gactcccan gacnggtacg gattgtgggc 300
atanaaggat tgggtgaagc tggcgttgtg gt 332

```

```

<210> 132
<211> 322
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(322)
<223> n = A,T,C or G

```

```

<400> 132
acttttgcca ttttgtatat ataacaate ttgggacatt ctctgaaaa ctagggtgtcc 60
agtggctaag agaactgat ttcaagcaat tctgaaagga aaacacagcat gacacagaat 120
ctcaaattcc caaacagggg ctctgtggga aaatgaggg aggaccttg tatctoggg 180
tttagcaagt taaaatgaan atgacaggaa aggettatct atcaacaaa agagaggttg 240
ggatgcttct aaaaaaaaaa ttggtagaga aaataggaat gctnaatcct aggggaagcct 300
gtaacaatct acaattgggc ca 322

```

```

<210> 133
<211> 278
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

```

```

<400> 133
acaagccttc acaagtttaa ctaaattggg attaatcttt ctgtanttat ctgcataatt 60
cttggttttc ttccatctg gctcctgggt tgacaatttg tggaaacaa totattgcta 120
ctcttcaaaa aaatcaca atcttccct ttangctatg ttgaattcaa actattcctg 180
ctattcctgt ttgtcaaa aaattatatt ttccaasata tgtntatttg cttgatgggt 240

```

cccacgaaac actaatataa accacagaga ccagcctg

278

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(121)

<223> n = A,T,C or G

<400> 134

gttttataaaa	cttgttttagc	ttcctagagg	aaagaatgtt	aaacttttga	ttttaaaaa	60
tgattctctg	aggctaaact	tggttttcaa	atgttatatt	tacttgtatt	ttgcttttgg	120
t						121

<210> 135

<211> 350

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(350)

<223> n = A,T,C or G

<400> 135

acttanaaac	atgcctagca	catcagaatc	cctcaaagaa	catcagtata	atcctatacc	60
atancsaagt	gtgactgggt	aagcgtgcga	caaagggtcag	ctggcacatt	acttgtgtgc	120
aaacttgata	cttttggttc	aagtaggaac	tagtatacag	ttcctaggan	tggtactcca	180
gggtgcccc	caactcctgc	agccgctcct	ctgtgccagn	ccctgnaagg	aaactttcgt	240
ccacctcaat	caagccctgg	gccatgctac	ctgcaattgg	ctgaacaaac	gtttgctgag	300
ttcccaagg	tgcaagcct	ggtgctcaac	tcttggggcg	tcaactcagt		350

<210> 136

<211> 399

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(399)

<223> n = A,T,C or G

<400> 136

tgtaccgtga	agacgacaga	agttgcatgg	cagggacagg	gcagggccga	ggccagggtt	60
gctgtgatbg	tatccgaata	ttcctogtga	gaaaagataa	tgagatgacg	tgagcagcct	120
gcagacttgt	gtctgccttc	anaagccag	acagggaagc	cctgcctgcc	ttggctctga	180
cctggcgccc	agccagccag	ccacagggtg	gcttcttctc	tttgtggtga	caacnccaag	240
aaaactgcag	aggcccagg	tcagggtgna	gtgggtangt	gaccatataa	carcagggtgc	300
tcccagggaac	ccgggcaaa	gccatccca	cctacagcca	gcctgcccac	tggcgtgatg	360
ggtgcagang	gatgaagcag	ccagntgttc	tgctgtggt			399

<210> 137

<211> 165

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tnggggggtga tgctgggtgg anaagttgan gtgacttcan gatggtgtgt 60
 ggaggaagtg tgtgaacgta gggatgtaga ngtttttggcc gtgctaaatg agcttcggga 120
 ttggctggtc ccactgggtgg tcactgtcat tgggtggggtt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138
 actcactgga atgcccacatt cacaacagaa tcagaggtct gtgaaaacat taatgggtcc 60
 ttaactttctc cagtangaat cagggacttg aaatggaaac gttaacagcc acatgcccaa 120
 tgctgggrag tctcccatgc ctccacagt gaaagggctt gagaaaaatc acatccaatg 180
 tcatgtgttt ccagccacac caaaaggtgc ttgggggtgga gggctggggg catananggt 240
 cangcctcag gaagcctcaa gtcccatcca gctttgccac tgtacattcc ccatttttaa 300
 aaaaactgat gctttttttt tttttttttg taasattc 338

<210> 139
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 139
 gggaatcttg gtttttggca cctgggttgc ctatagccga ggccactctg acagaacaaa 60
 gaaagggact togagtaaga aggtgatcta cagccagcct agtgcccgaa gtgaaggaga 120
 attcaaacag acctcgctcat tcttggtgtg agcctggctg gctcacccgc tatcatctgc 180
 atttgcttta ctacaggtgt accggactct ggcctctgat gtctgtagt ttacaggatg 240
 ccttatttgt cttctacacc ccacagggcc cctactctct tcggatgtgt ttttaataat 300
 gtcagctatg tgcccatcc tcttcatgc cctccctccc tttctacca ctgctgagt 360
 gcttggaact tgtttaaggt gt 382

<210> 140
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 140
 accaaanctt cttctgttg tgttngattt tactataggg gtttngcttn ttctaaanct 60
 atttttcatt taacancttt tgttaagtgt caggtctgac ttgtctcat anaattattg 120
 ttttcacatt tcaacttgta tgtgtttgtc tottanagca ttggtgaaat cacatatttt 180
 atattcagca taaggagaa 200

<210> 141
 <211> 335
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(335)
 <223> n = A,T,C or G

<400> 141
 accttatttt caaacactc atatgttgca aaaaacacat agaaaaataa agtttggtgg 60
 ggggtgctgac taaacttcaa gtcacagact ttatgtgac agattggagc agggtttggt 120
 atgcatgtag agaaccocaa ctaatttatt aaacaggata gaaacaggct gtctgggtga 180
 aatggttctg agaaccatcc aattcactg tcagatgctg atanactagc tcttcagatg 240
 tttttctacc agttcagaga tnggttaatg actanttcca atgggggaaaa agcaagatgg 300
 attcacaac caagtaattt taaacaaaga cactt 335

<210> 142
 <211> 459
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(459)
 <223> n = A,T,C or G

<400> 142
 accagggttaa tattgccaca tatatccttt ccaattgcgg gctaaacaga cgtgtattta 60
 gggttgttta aagacaaccc agcttaatat caagagaaat tgtgacctt catggagtat 120
 ctgatggaga aaacactgag ttttgacaaa tcttatttta ttcagatagc agtctgatca 180
 cacatggtcc aacaacactc aaataataaa tcaaatatne tcagatgtta aagattggtc 240
 ttcaaacatc atagccaatg atgccccgct tgcctataat ctctccgaca taaaaccaca 300
 tcaacacctc agtggccacc aaaccattca gcacagcttc cttaactgtg agctgtttga 360
 agctaccagt ctgagcacta ttgactatnt ttttcangct ctgaatagct ctagggatct 420
 cagcangggg gggagggaacc agctcaacct tggcgtant 459

<210> 143
 <211> 140
 <212> DNA
 <213> Homo sapien

<400> 143
 acatttcoct ccaccaagtc aggactcctg gcttctgtgg gagttcttat cacttgaggg 60
 aatccaaac agtctctctc agaaaggaat agtgcacca accccaccca tctcctgag 120
 accatccgac ttcctgtgtc 140

<210> 144
 <211> 164
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(164)
 <223> n = A,T,C or G

<400> 144
 acttcagtaa caacatacaa taacaacatt aagtgatat tggcatcttc gtcattttct 60
 atctatacca ctctcccttc tgaatacaan aatcactanc caatcactta tacaaatttg 120
 aggaatttaa tccatacttg ttttcaataa ggaaaaaag atgt 164

<210> 145
 <211> 303
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 145
 acgtagacca tccaactttg tatttgtaat ggcaaacatc cagnagcaat tccataacaa 60
 actggagggt atttataccc aattatccc ttcattaaca tggcctcttc ctccaggctat 120
 gcaggacagg tatcataagt cggcccaggc atccagatac taacattttgt ataaacttca 180
 gtaggggagt ccatccaagt gacaggtcta atcaaaggag gaaatgggac ataagcccag 240
 tagtaaaatn ttgcttagct gaaacagcca caaaagactt accgcctggt tgattaccat 300
 caa 364

<210> 146
 <211> 327
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac ttccatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgcctcgggt ggttgagaga gctcccttgc caacaggcct 120
 ccaagtcagg gctgggattt gtttctttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gagggtggga ggagccagca tggacaagc tggcactttc taagtagcc 240
 agacttgccc ctgggcctgt cacacctact gatgacctc tgtgcttgcg ggatgggagt 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagagata agcatcgana gagctctcct taacgtgaca caatgggaagg 60
 actggaacac ataccacat ctttgtctct agggataatt ttctgataaa gtcttgctgt 120
 atattoaagg acatattgta tatattatto agttccatgt ttatagccta gtt 173

<210> 148

<211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> [1]... (477)
 <223> n = A,T,C or G

<400> 148
 acaacaaactt tatctcatcg aatttttaac ccaaactcac tcaactgtgc tttctatct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgotgcaat aatcacattc ccttctgtgc ctgaacctga agccattggg 180
 gtggctcctag tggccatcag tccangcctg cactctgagc ccttgagctc cactgctcac 240
 nccanccac ctacccgccc ccatcctctt acacagctac ctctctgctc tctaacccca 300
 tagattatnt ccaaatccag tcaattaagt tactattaac actctacccg acatgtccag 360
 caccactggg aagccttctc cagccaaacac acacacacac acacacacac acacacatat 420
 ccaggcacag gctacctcat ctccacaatc accctcttaa ttaccatgct atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagtgtgat tataatatca agaaataaac ttgcaatgag agcatttaag agggangaac 60
 taacttattt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagagtccgc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca 180
 ttccaggcag agggaaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> [1]... (111)
 <223> n = A,T,C or G

<400> 150
 acccttgattt cactgtctgt ctgatggaaa cccaactatc taatttagct aaaacatggg 60
 cacttaaatg tggtcagtgt ctggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcggggcag gtcattatga acattccaga tacttatcat tactcgatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaccat 120
 ggataccaac cggaaaaacc ctatcccgca cagcccactg tggccccac tgtctaccag 180
 gtgcattccg ctccagt 196

<210> 152
 <211> 132
 <212> DNA

<213> Homo sapien

<400> 152

```
acagcacttt cacatgtaag aagggagaaa ttctaaatg tagggagaaag ataacagaac      60
cttccccctt tcatttagtg gtggaaacct gatgctttat gttgacaggg atagaaccag      120
gagggagttt gt                                     132
```

<210> 153

<211> 285

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(285)

<223> n = A,T,C or G

<400> 153

```
acaanaccca nganaggcca ctggccgtgg tgatcatggc tccaaacatg aaagtgtcag      60
cttctgctct tatgtctcca ttgacaact cttaccatt tttatctctg ctccagcagg      120
gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggagggaag tctcaaacac      180
cctggctagt gaggttgagg cgcgcctcct ggatgacggc atctgtgaag togtgcacca      240
gtctgcaggc cctgtggaag cgcgcctcac aaggagtnag gaatt                                     285
```

<210> 154

<211> 333

<212> DNA

<213> Homo sapien

<400> 154

```
accacagtc ttgtgggcca gggcttcctg accctttctg tgaabagcca tattatcac      60
accccaaat tttccttaaa tatctttaac tgaaggggtc agcctcttga ctgcaaagac      120
cctaagcagg ttacacagct aactccact ggccctgatt tgtgaaattg ctgctgcctg      180
attggcaca gagtgcagg ttgtcagctc cctctctcct tggaaaggga ctctgatttg      240
agtttcacaa attctcgggc cactcgtca ttgctcctct gaatatasaat ccggagaaatg      300
gtcaggcctg tctcatccat atggatcttc ogg                                     333
```

<210> 155

<211> 308

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(308)

<223> n = A,T,C or G

<400> 155

```
actggaaata ataaasccca catcacagt ttgtgtcaaa gatcatcagg gcatggatgg      60
gaaagtgtct tgggaactgt aaagtgccta acacatgac gatgattttt gttataatat      120
ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc      180
atcacagctc actgctctgt tcatccaggc ccagcatgta gtggttgatt cttcttggtc      240
gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtgta aggcattgctg      300
gctctggg                                     308
```

<210> 156

<211> 295

<212> DNA

<213> Homo sapien

<400> 156

acettgctcg	gtgcttggaa	catattagga	actcaaaata	tgagatgata	acagtgccta	60
ttattgatta	ctgagagaac	tgtagacat	ctagttgaag	atcttctaca	caggaaactga	120
gaataggaga	ttatgttttg	cctcatatt	ctctctatc	ctccttgcct	cattctatgt	180
ctaataatatt	ctcaatcaaa	taagggttagc	ataatcagga	aategacca	ataccaatat	240
aaaaccagat	gtctatcctt	aagattttca	aatagaaaaa	aaattaacag	actat	295

<210> 157

<211> 126

<212> DNA

<213> Homo sapien

<400> 157

acaagtttaa	atagtgtgt	cactgtgcct	gtgctgaat	gtgaatcca	ccacattct	60
gaagagcaaa	acaaattctg	tcctgtaac	tctatcttgg	gtcgtggga	tatctgtccc	120
ctragt						126

<210> 158

<211> 442

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{442}

<223> n = A,T,C or G

<400> 158

acccactggg	cttggaaaca	cccatcctta	atacgtatgat	tttctctgtcg	tgtgaaaatg	60
aancragcag	gtgccccta	gtcagctctt	ccttcacagag	aaaaagagat	ttgagaaagt	120
gcctgggttaa	ttcaccatta	attctctccc	ccaaactctc	tgagtcttcc	cttaatatct	180
ctggtggttc	tgaccaaaagc	aggtcatggg	ttgttgagca	tttgggatcc	cagtgaagta	240
natgtttgta	gccttgcata	cttagccctt	cccacgcaca	aacggagtg	cagcgtgggtg	300
ccaaacctgt	tttcccagtc	cacgtagaca	gattcacagt	gcgggaattct	ggaagctgga	360
nacagacggg	ctctttgcag	agccgggact	ctgagangga	catgagggcc	tctgcctctg	420
tgttcattct	ctgatgtcct	gt				442

<210> 159

<211> 498

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{498}

<223> n = A,T,C or G

<400> 159

acttcacagg	aaagtgttg	tttcggttg	gcctgaactg	atgggtgacg	ttgtagggtc	60
tccaacaaga	actgagggtg	cagagcgggt	agggaaagag	gctgttccag	ttgcacctgg	120
gctgctggtg	actgttgtg	attcctcact	aaggcccaag	gttgtggaac	tggcanaaag	180
gtgtgttgtt	gganttgagc	tgggggggct	gtggtaggtt	gtgggtctct	caacaggggc	240
tgctgtgggtg	ccgggagtg	aagtggtgtg	gtcacttgag	cttggccagc	tctggaaagt	300
antatattct	tcctgaaggc	cagcgttgt	ggagctggca	ngggtcantg	ttgtgtgtaa	360
cgaaccagtg	ctgctgtggg	tgggtgtana	tcctccacaa	agcctgaagt	tatgggtgcn	420
tcaggtaana	atgtggtttc	agcttcctg	ggcngctgtg	gaaggttgta	nattgtcacc	480

aaggggaataa gctgtggt

498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> [1]... (380)

<223> n = A,T,C or G

<400> 160

acctgcacac	agcttccctg	ccaaactcac	aaggagacac	caacctctag	acaggggaac	60
agcttcagga	tacttcagg	agacagagcc	accagcagca	aaacaaatat	tcocatgcct	120
ggagcatggc	atagagggaag	ctganaaaatg	tgggggtctga	ggaagccatt	tgagtctggc	180
cactagacac	ctcatcagcc	acttggtgtga	agagatgccc	catgacccca	gatgcctctc	240
ccaccctcac	ctccatctca	cacacttgag	ctttccactc	tgtataatcc	caacatcctg	300
gagaaaaatg	gcagtttgac	cgaacctgtc	cacaacggta	gaggctgatt	tctaacgaaa	360
cttgtagaat	gaagcctgga					380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc	ccctctgagc	aggcggttgt	cgttcaagggt	gtattctggc	ttgcctgtca	60
cactgtccac	tggcccttta	tcacttgggt	gcttaatccc	tcgaagagac	atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

actttctgaa	tgaatcaaa	tgatacttag	tgtagtttta	atatcctcat	atatatcaaa	60
gttttactac	tctgataatt	ttgtaaacca	ggtaaccaga	acatccagtc	atacagcttt	120
tggtagatata	taacttggca	ataaccagtc	ctgggtgatac	ataaaactac	tcactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (137)

<223> n = A,T,C or G

<400> 163

catttatara	gacaggcggtg	aagacattca	cgacaaaaac	gcgaattct	atcccgtgac	60
canagaaggg	agctaaggct	actoctacat	cctggcggtgg	gtggccttcg	cctgcacctt	120
catcagcggc	atgatgt					137

<210> 164

<211> 469

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(469)

<223> n = A,T,C or G

<400> 164

cttatcacaa tgaatgttct cctggggcagc gttgtgatct ttgccacctt cgtgacttta	60
tgcaatgcct catgctattt catacctaat gagggagttc caggagattc aaccaggaaa	120
tgcstggatc tcaaggaaa caaacaccca ataaactcgg agtggcagac tgacaactgt	180
gagacatgca cttgctacga aacagaaatt tcatgttgca ccttgttttc tacacctgtg	240
ggttatgaca aagacaactg ccaaagaatc ttcaagaagg aggaactgaa gtatatcgtg	300
gtggagaaga aggacccaaa aaagacctgt tctgtcagtg aatggataat ctaatgtgct	360
tctagtaggc acagggtcc caggccaggc ctcatctctc tctggcctct aatagtcact	420
gattgtgtag ccatgcctat cagtaaaaag atntctgagc aaacacttt	469

<210> 165

<211> 195

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(195)

<223> n = A,T,C or G

<400> 165

acagtttttt atanatctg acattgccgg cacttgtgtt cagtttcata aagctgggtg	60
atccgctgtc atccactatt ctttggttag agtaaaaatt attcttatag cccatgtccc	120
tgcaggccgc ccgcccgtag ttctcgttcc agtcgtcttg gcacacaggg tgccaggact	180
tcctctgaga tgaat	195

<210> 166

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 166

acatcttagt agtgtggcac atcagggggc catcaggggc acagtcactc atagcctcgc	60
caggggtcggg gtccacacca ccggtgtagg tgtgtcctaat cttgggcttg gcgcccacct	120
ttggagaagg gatatgctgc acacacatgt ccacaaagcc tgtgaactcg ccaaagaatt	180
tttgcagacc agcctgagca aggggcggat gtccagcttc agctcctcct tegtccagtg	240
gatgccaacc tegtctangg tccgtgggaa gctgggtgtc acntcaccta caacctgggc	300
gagatctta taagagggt ccnagataaa ctccacgaaa cttctctggg agctgctagt	360
nggggccttt ttggtagaact ttc	383

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> {1}... (247)
 <223> n = A,T,C or G

<400> 167
 acagagccag accttggcca taaatgaanc agagattaag actaaacccc aagtcganat 60
 tggagcagaa actggagcaa gaagtggggc tggggctgaa gtagagacca aggccactgc 120
 tatanccata cacagagcca actctcaggc caaggcnatg gtbggggcag anccagagac 180
 tcaatctgan tccaaagtgg tggctgggac actggtcatg acanaggcag tgactctgac 240
 tgangtc 247

<210> 168
 <211> 273
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (273)
 <223> n = A,T,C or G

<400> 168
 acttctaaagt tttctagaag tgggaaggatt gtanctatcc tgaatatggg tttacttcaa 60
 aatccctcan ccttggtctc cactactgtc tatactgana gtgtcatgtt tccacaaagg 120
 gctgacacct gagcctgnat tttcaactcat ccttgagaag cctttccag taggggtgggc 180
 aattcccaac ttctttgcca caagcttccc aggtcttctc ccttggaana ctccagcttg 240
 agtccccagat acctctctgg gctgacctgg gca 273

<210> 169
 <211> 431
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (431)
 <223> n = A,T,C or G

<400> 169
 acagccttgg etccccaaa ctccacagtc tcagtgcaga aagatcatct tccagcagtc 60
 agctcagacc aggggtcaag gatgtgacat caacagtttc tggtttcaga acagggtctc 120
 ctactgtcaa atgacccccc atacttctc aaaggctgtg gtaagttttg cacaggtag 180
 ggcagcagaa agggggtant tactgatgga caccatcttc tctgtatact ccacactgac 240
 ottgocatgg gcaaaggccc ctaccacaaa aacaatagga tcaactgctg gcaccagctc 300
 acgcacatca ctgacaaccg ggatggaaaa agaantgcca actttcatac atccactgg 360
 aaagtgatct gatactggat tcttaattac cttcaaaagc ttctgggggc catcagctgc 420
 tgaacactg a 431

<210> 170
 <211> 266
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (266)
 <223> n = A,T,C or G


```

<400> 170
acctgtgggc tgggtgttta tgctgtgtcc ggtgtgtgaa agggagtcca gaggtggagc      60
tcaaggagct ctgcaggcat tttgccaan cttctccanag canagggagc aacctacact      120
ccccgctaga aagacaccag attggagtc tgggaggggg agttgggggtg ggcatttgat      180
gtatacttgt cactgaatg aangagccag agaggaanga gacgaanatg anattggcct      240
tcaaagctag gggctctggca ggtgga                                     265

```

<210> 171

<211> 1248

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1248)

<223> n = A,T,C or G

```

<400> 171
ggcagccaaa tcatasaagg ctaggaactgc agcccgcaact cgcagccctg gcaggcggca      60
ctggtcatgg aaaacgaatt gttctgtctg ggcgtcctgg tgcattcgca gtgggtgctg      120
tcagccgcac actgtttcca gaagtgagtg cagagctcct acaccatcgg gctgggacctg      180
cacagtcttg aggcagacca agagccaggg agcccgatgg tggaggccag cctctccgta      240
cggcacccag agtacaccag acccttgcct cctaaccgac tcatgtctat caagttggac      300
gaatccgtgt ccaggtctga caccatccgg agcatcagca ttgcttcgca gtgccttacc      360
goggggaact cttgcctcgt ttctggctgg ggtctgtctg cgaacggcag aatgcctacc      420
gtgctgcagt gcytgaacgt gtcygtgggt tctgaggagg tctgcagtaa gctctatgac      480
ccgtgtgacc accccagcat gttctgcgcc ggcgaggggc aagaccagaa ggactcctgc      540
aacggtgact ctgggggggc cctgatctgc aaogggtact tgcagggact tgtgtcttcc      600
ggaaaaggcc cgtgtggcca agttggcgtg ccaggtgtct acaccaacct ctgcaaatcc      660
actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacctatgaa      720
attgaccccc aaatacattc tgoggaagga attcaggaat atctgttccc agccctcctc      780
ccctcaggcc caggagtcca ggcctccagc cctctctccc tcaaaccaag ggtaccgac      840
cccagccctc cctccctcag acccaggagt ccagaccccc cagccctcc tccctcagac      900
ccaggagtcc agccctcct cctcagacc caggagtcca gaccccccag cccctcctcc      960
ctcagaccca ggggtccagg cccccaaccc ctcctccctc agactcagag gtccaaagccc      1020
ccaaaccncc attcccccaga cccagagggt cagggtccag cccctctccc ctcagaccca      1080
gcggtccaat gccacctaga ctntccctgt acacagtgcc ccttctgtgg acgttgaccc      1140
aaccttacca gttgggtttt catttttngt ccttctcccc tagatccaga aataaagttt      1200
aagagaagng caaaaaaaa aaaaaaaa aaaaaaaa aaaaaaaa                                     1248

```

<210> 172

<211> 159

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(159)

<223> Xaa = Any Amino Acid

```

<400> 172
Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
1           5           10           15
Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
20           25           30
Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
35           40           45
Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

```

50	55	60
Arg Met Pro Thr Val	Leu Gln Cys Val Asn Val	Ser Val Val Ser Glu
65	70	75
Glu Val Cys Ser Lys	Leu Tyr Asp Pro Leu Tyr	His Pro Ser Met Phe
85	90	95
Cys Ala Gly Gly Gln	Xaa Gln Xaa Asp Ser Cys	Asn Gly Asp Ser
100	105	110
Gly Gly Pro Leu Ile	Cys Asn Gly Tyr Leu Gln	Gly Leu Val Ser Phe
115	120	125
Gly Lys Ala Pro Cys	Gly Gln Val Gly Val Pro	Gly Val Tyr Thr Asn
130	135	140
Leu Cys Lys Phe Thr	Glu Trp Ile Glu Lys Thr	Val Gln Ala Ser
145	150	155

<210> 173
 <211> 1265
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (1265)
 <223> n = A,T,C or G

<400> 173

ggcagccgcg	actcgcagcc	ctggcaggcg	gcactgggtca	tggaaaaaga	attgtttctgc	60
tcggggcgctcc	tgggtgcaccc	gcagtgggtg	ctgtcagccg	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggctt	gcacagctct	gaggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gaccccttgc	cgctaaccgac	240
ctcatgctca	tcaagttgga	cgaatccgtg	tcogagctctg	acaccatccg	gagcatcagc	300
attgcttcgc	agtgccctac	cgccggggaac	tcttgctctg	tttctggctg	gggtctgctg	360
gcgaacgggtg	agctcacggg	tgtgtgtctg	ccctcttcaa	ggaggtccctc	tgcccagtcg	420
cgggggctga	cccagagctc	tgcttcccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggt	ggtgtctgag	gaggtctgca	gtaagctcta	tgaccogctg	taccaaccca	540
gcctgttctg	cgccggcgga	gggcaagacc	agsaggactc	ctgcaacggg	gactctgggg	600
ggccctctgat	ctgcaacggg	tacttgccag	gccttctgtc	tttcggaaaa	gcccgcgtgtg	660
gccaaagtgg	ogtgccaggt	gtctacacca	acctctgcaa	attcaactgag	tggtatagaga	720
aaacogtcca	ggccagttaa	ctctggggac	tgggaaccca	tgaattgac	ccccaataac	780
atctctggga	aggaattcag	gaatatctgt	tcccagcccc	tccctcccca	ggcccaggag	840
tccagggccc	cagccctccc	tccctcaaac	caagggtaca	gatcccccagc	ccctcctccc	900
tcagacccag	gagtcacagc	ccccagccc	ctcctccctc	agacccagga	gtccagcccc	960
tcctccntca	gacccaggag	tccagacccc	ccagccctcc	ctcctccaga	cccagggggt	1020
gaggccccc	acccctccct	cttcagagtc	agaggtccaa	gcccccaacc	cttcgttccc	1080
cagacccaga	ggttnaggte	ccagccctcc	tccntcaga	cccagnggtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcctccctg	tgganngttg	acccaacctt	accagttggt	1200
ttttcatttt	tngtcccttt	cccttagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174
 <211> 1459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (1459)
 <223> n = A,T,C or G

<400> 174

gggcagccgc	acactgtttc	cagaagttag	tgcagagctc	ctacaccate	gggctgggccc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtaggggccc	agcctctccg	120
taaggacccc	agagtacaa	agacccttgc	tcgctaacga	cctcatgtcc	atcaagttgg	180
acgaatccgt	gtccgagttc	gacaccatcc	ggagcatcag	cattgcttcc	cagtgcccta	240
ccgcggggaa	ctcttgcttc	gtttctggct	gggtctctgt	ggcgaacggg	gagctcacgg	300
gtgtgtgtct	gcccctctca	aggaggctcc	ctgcccagtc	gcgggggctg	acccagagct	360
ctgcgtcccc	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tgggtgtctga	420
ngaggtctgc	antaagctct	atgaaccgct	gtaccacccc	ancatgttct	gcgcggcgcg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
cagggaaggg	tggagagggg	ggagacagag	acacacaggg	cgccttgggc	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaaagg	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcattggggcc	tgaggggcgg	780
gacctccacc	caatagaaaa	tcctcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcttact	gttgacgggg	agccttacc	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcatc	catgatatac	ctttgttggg	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	tttttttaaa	tgttgcaact	ctcctaaaa	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaacccag	gttgttcaag	ggccaactgt	1080
gtacccagag	ggaaacagtg	acacagatcc	atagaggtga	aacacggaag	gaacacggaa	1140
aatcaagac	tctacaaaga	ggctggggcag	ggtaggctcat	gcctgtaatc	ccagcacttt	1200
gggaggcgag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatgggtgg	aggcgccctgt	1320
aatccagct	acttgggggg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagttagtt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1167)

<223> n = A,T,C or G

<400> 175

ggcagagccc	ggcaggcggc	actggctcatg	gaaaaagaa	tgttctgtct	gggctgctctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatccgg	120
ctgggcccgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggg	ggaggccagc	180
ctctccgtac	ggcaccacga	gtacaacaga	ctcttgtctg	ctaaccgact	catgtctatc	240
aagttggacg	aatccgtgtc	caggtctgac	accatccgga	gcatacagcat	tgccttcgcag	300
tgccttaccg	cggggaaetc	ttgectcgtn	cttggctggg	gtctgctggc	gaacggcaga	360
atgcttaccg	tgtgcactg	cgtgaacgtg	tgggtgggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgtgttacc	cccagcatg	ttctgcgccc	gcggagggca	agaccagaag	480
gaotcctgca	acggtgaetc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtcttctg	gaaaagcccc	gtgtggccaa	cttggcgtgc	cagggtgtct	caccaacctc	600
tgcaaatcca	ctgagtgag	agagaaaaac	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccc	aatacatcct	gcgggaangaa	ttcagggaata	tctgttccca	720
gcccctcctc	cctcaggccc	aggagtccag	gccccccagc	cctcctccct	caaacccaagg	780
gtacagatcc	ccagcccttc	ctccctcaga	cccaggagtc	cagacccccc	agccctctct	840
ccntcagacc	caggagtcca	gcccctcctc	ccntcagacc	aggagtccag	acccccccagc	900
ccntctctcc	tcagacccag	gggtgcaggc	cccccaaccc	tcntccntca	gagtcagagg	960
tcraagcccc	caacccctcg	ttccccagac	ccagaggtnc	aggctccagc	ccctcctccc	1020
tcagacccag	cggtccaatg	ccacctagan	tntccctgta	cacagtgcgc	ccttgtggca	1080
ngttgaccca	accttaccag	ttgggttttc	atcttttctg	cctttccccc	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaa				1167

<210> 176
 <211> 205
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(205)
 <223> Xaa = Any Amino Acid

<400> 176
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
 100 105 110
 Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
 115 120 125
 Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
 130 135 140
 Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
 145 150 155 160
 Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
 165 170 175
 Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
 180 185 190
 Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
 195 200 205

<210> 177
 <211> 1119
 <212> DNA
 <213> Homo sapien

<400> 177
 gggcactggc agccctggca gggggcactg gtcattggaa acgaattggt ctgctggggc 60
 gtccctgggtg atccgcagtg ggtgctgtca ggcgcacact gtttccagaa ctctacacc 120
 atcgggctgg gctgacacag tcttgaggcc garccaagagc caggggagcca gatgggtggag 180
 gccagcctct ccgtacggca cccagagtac aacagaccct tgcctgctaa cgacctcatg 240
 etcatcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct 300
 tgcagtgcc ctaccggggg gaactcttgc ctogtttctg gctgggggtct gctggcgaa 360
 gatgctgtga ttgccatcca gtcccagact gtggggaggct gggagtgtga gaagctttcc 420
 caaccctggc aggggtgtac catttcggca acttccagtg caaggacgtc ctgctgcac 480
 ctccactgggt gctcactact gctcactgca tcccccggaa cactgtgatc aactagccag 540
 caccatagtt ctcggaagtc agactatcat gattactgtg ctgactgtgc tgtctattgt 600
 actaaccatg ccgatgttta ggtgaaatta gogtcacttg gcttcaacca tcttgggtatc 660
 cagttatcct cactgaattg agatttccctg ctccagtggt agccattccc acataatttc 720
 tgacctacag aggtgaggga tcatatagct ctccaaggat gctggtaetc ccttcacaaa 780

```

ttcattttctc ctgttgtagt gaaaggtgag cctctctggag cctcccaggg tgggtgtgca      840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttta atccctcatg      900
ctcagtaaac cagggcaggt ctagcatttc ttcatttagt gtatgctgtc cattcatgca      960
accacctcag gactcctgga ttctctgctt agttgagctc ctgcattgct cctccttggg     1020
gaggtgaggg agaggggcca tggttcaatg ggcctctgtg agttgtaaca cattaggtgc     1080
ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaaaa     1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(164)

<223> Xaa = Any Amino Acid

<400> 178

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1          5          10          15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
          20          25          30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
          35          40          45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
          50          55          60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
          65          70          75          80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
          85          90          95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
          100          105          110
Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
          115          120          125
Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
          130          135          140
Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
          145          150          155          160
Pro Gly Thr Leu

```

<210> 179

<211> 250

<212> DNA

<213> Homo sapien

<400> 179

```

ctggaagtgc ttggtgttcc aagccctctg aggaagcaga atgcaccttc tgaggcacct      60
ccagctgcgc caggccgggg gatgcgaggg tcggagcacc ctgcccggc tgtgattgct     120
gccaggccact gticattctca gcttttctgt ccttttgctc cgggcaagcg cttctgctga     180
aagttcatat ctggagcctg atgtottaac gaataaaggc cccatgctcc acccgaaaaa     240
aaaaaaaaaa                                     250

```

<210> 180

<211> 202

<212> DNA

<213> Homo sapien

<400> 180
 actagtccag tgggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcacccagac cccgcccctg ccogtgcgcc acgtgctgc taacgacagt atgatgctta 120
 ctctgtact cggaaactat ttttatgtaa ttaatgtatg ctttcttgtt tataaatgoc 180
 tgatttcaaaa aaaaaaaaaa aa 202

<210> 181
 <211> 558
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{558}
 <223> n = A,T,C or G

<400> 181
 tccytttght naggtttkkq agacacccck agacctwaan ctgtgtcaca gacttcyngg 60
 aatgttttagg cagtgcctagt aatttcyctg taatgattct gttattactt tccctnattct 120
 ttattctctt ttctcttgaa gattaatgaa gttgaaactt gaggtggata aatacaaaaa 180
 ggtagtgtga tagtataagt atctaagtgc agatgaaagt gtgttatata tatccattca 240
 aaattatgca agttagtaat tactcagggg taactaaatt accttaatat gctgttgaac 300
 ctactctgtt ccttggctag aaaaaattat aacacggact ttgttagttt gggaaagccaa 360
 attgataata ttctatgttc taaaagttgg gctatacata aattattaag aaatatggaw 420
 ttttattccc aggaatatgg kgttcatttt atgaatatta caorggatag awgtwtgagt 480
 aaaaycagtt ttggtwaata ygtwaatatg tcmataataa acaakgcttt gacttatttc 540
 caaaaaaaaaa aaaaaaaaaa 558

<210> 182
 <211> 479
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{479}
 <223> n = A,T,C or G

<400> 182
 acagggwttk grggatgcta agsccccrga xwtggtttga tccaaccctg gcttwttttc 60
 agaggggaaa atggggccta gaagttacag mscatytagy tgggtgcgntg gcacccctgg 120
 cstcacacag astcccgagt agctgggact acagggcacac agtcaactgaa gcagggccctg 180
 ttwgcaattc acgttgccac ctccaaactta aacattcttc atatgtgatg tcccttagtca 240
 ctaaggttaa actttcccac ccagaaaagg caacttagat aaaatcttag agtaacttca 300
 tactmctcta agtccctctc cagcctcact kkgagtccm cytgggggtt gatagggaant 360
 ntctcttggc tttctcaata aartctctat ycatctcatg ttaactttgg taccgatara 420
 awtgstgata aaattcaaat gttctgggtty maactttaaaa aaaaaaaaaa aaaaaaaaaa 479

<210> 183
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 183
 aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc 60
 agtaccagta ccaataacag tgcagtgcc agtgccagca ccagtggtgg cttcagtgct 120
 ggtgccagcc tgacogccac tctcacattt gggctcttcg ctggccttgg tggagctgg 180
 gccagcacca gtggcagctc tgggtgctgt ggtttctctt accagtgaga ttctagatat 240

tgtaatacct gccagtcctt cttttcaagc cagggtgcat cctcagaaac ctactcaaca	300
cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt axatctattt	360
gccatttcaa aaaaaaaaaa aaaa	384

<210> 184

<211> 496

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(496)

<223> n = A,T,C or G

<400> 184

accgaattgg gaccgctgga ttataaggga tcatgttynt corgtatkar ctcaacgagc	60
agggagatcg agtctatacg ctgaagaaat ttgacccgat gggacaacag acctgctcag	120
cccatcctgc tgggttctcc ccagatgaca aatactctcg acacogaatc accatcaaga	180
aacgcttcaa ggtgctcatg acccagcaac cgcgcctgt cctctgaggg tcccttaaac	240
tgatgtcttt tctgccaact gttacccctc ggagactcgg taacccaaact ctteggactg	300
tgagccctga tgcctttttg ccagccatcc tctttggcat ccagtctctc gtggcgattg	360
attatgcttg tgtgaggcaa tcatggtggc atcaaccata aagggaacac atttgacttt	420
tttttctcat attttaaat actacmagaw tattwmagaw waaatgawtt gaaaaactst	480
taaaaaaaaa aaaaaa	496

<210> 185

<211> 384

<212> DNA

<213> Homo sapien

<400> 185

gctggtagcc tatggcgkgy cccaaggagg ggctcctgag gccacggrac agtgacttcc	60
caagtatcyt gcgcagcgto ttctaccgto cctaccctgca gatcttcggg cagattcccc	120
aggaggacat ggaagtggcc ctcatggagc acagcaactg ytcgtcggag cccggtctct	180
gggcacaccc tctgggggcc caggcgggca cctgcgtctc ccagtatgcc aactggctgg	240
tgggtgctgt cctcgtcctc ttctgctcgt tggccaacat cctgctgggc aacttgctca	300
ttgccatggt cagttacaca ttgggcaaag tacagggcaa cagcgatctc tactgggaag	360
gcgcagcggt accgctctat ccgg	384

<210> 186

<211> 577

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(577)

<223> n = A,T,C or G

<400> 186

gagttagctc ctccacaacc ttgatgaggt cgtctgcagt ggccctctgc ttcataccgc	60
tnccatogtc atactgtagg tttgccacca cytcctggca tcttggggcg gcntaatatt	120
ccaggaaact ctcaatcaag tcaccgtoga tgaacacctg gggctggctc tgtcttcgcg	180
tcgggtgtga aggatctccc agaaggagtg ctogatcttc cccacacttt tgatgacttt	240
attgagtcga ttctgcattg ccagcaggag gttgtaccag ctctctgaca gtgaggtrac	300
cagccctatc atgcggttga mogtgccgaa garcaccgag ccttgtgtgg gggkkgaagt	360
ctcaccocaga ttctgcatta ccagagagcc gtggcaaaaag acattgacaa actcgcccag	420
gtggaaaaag amcamctcct ggargtgetn gcegcctctc gtcngtttgt ggcagcgctw	480

```

tcctttttgac acacaaacaa gttaaaggca ttttcagccc ccagaaantt gtcatcatcc 540
aagatntegc acagcaactna tccagttggg attaaat 577

```

```

<210> 187
<211> 534
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(534)
<223> n = A,T,C or G

```

```

<400> 187
aacatcttcc tgtataatgc tgtgtaatat cgatccgatn ttgtctgatg agaatycatw 60
actkggaaaa gmaacattaa agcctggaca ctggtattaa aattcacaaat atgcaacact 120
ttaaacagtg tgtcaatctg ctcccyynac ttgtcatca ccagtctggg aakaagggtta 180
tgccctatct acacctgtta aaaggcgctt aagcattttt gattcaacat cttttttttt 240
gacacaagtc cgaaaaaagc aaaagtaaac agttatyaat ttgttagcca attcacttcc 300
ttcatgggac agagccatyt gatttaaaaa gcaaatgca taatattgag ctttygggagc 360
tgatatttga ggggaagagt agcctttcta cttcaccaga cacaactccc ttcatattg 420
ggatgttnac naaagtwtg tctctwacag atgggatgct ttgtggcaa ttctgttctg 480
aggctctccc agtttattha ccacttgca cagaaggcgt tttcttctc aggc 534

```

```

<210> 188
<211> 761
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(761)
<223> n = A,T,C or G

```

```

<400> 188
agaaaccagt atctctnaaa acaacctctc ataccttggt gacctaatlt tgtgtgggtg 60
tgbtgtgbcy cgcctattat atagacaggg acatcttttt tacttttgta aaagcttatg 120
cctctttggg atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct 180
ttgtcttctg tgtaaatggg actagagaaa acacctatnt tatgagtcaa tctagttngt 240
tttattogac atgagggaaa ttccagatn acaacctna caaactctcc ctkgackarg 300
ggggacaaag aaaagcaaaa ctgamcataa raacacatwa cctgggtgaga arttgcataa 360
acagaaatwr ggtagtatat tgaarnacag catcattaaa rmgttwtktt wttotccctt 420
gcaaaaaaca tgtacngact tcccgctgag taatgccaag ttgttttttt tatnataaaa 480
cttgcccttc attacatggt tnaaagtggg gtggtgggccc aaaatattga aatgatggaa 540
ctgactgata aagctgtaca aataagcag gtgcctaaca agcaacacag taatgttgac 600
atgcttaatt cacaatgct aatttcatta taaatgtttg ctaaaataca ctttgaacta 660
ttttctgtgn ttccagagc tgagatntta gattttatgt agtatnaagt gaaaaantac 720
gaaaataata acattgaaga aaaaananaa aaaaanaaaa a 761

```

```

<210> 189
<211> 482
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(482)
<223> n = A,T,C or G

```


<400> 189

tttttttttt	tttgcgatn	ctactatttt	attgcaggan	gtgggggtgt	atgcaccgca	60
caccgggggt	atnagaagca	agaaggaagg	agggaggggc	cagcccttg	ctgagcaaca	120
aagcgccttg	ctgccttctc	tgtctgtctc	ctgggtgcagg	cacatgggga	gaccttcccc	180
aaggcagggg	ccaccagtc	aggggtggga	atacaggggg	tgggagtggt	gcataagaag	240
tgataggcac	aggccaccog	gtacagaccc	ctcggtcct	gacaggtnga	tttcgaccag	300
gtcattgtgc	cctgcccagg	cacagcgta	atctggaaaa	gacagaaatgc	tttccttttc	360
aaatttggct	ngtcatngaa	ngggcanntt	tcccaantng	gctnggtctt	ggtacncttg	420
gttcgggcca	gctcncgtc	caaaaantat	tcacccnct	cnaattgct	tgcnngnccc	480
cc						482

<210> 190

<211> 471

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (471)

<223> n = A,T,C or G

<400> 190

tttttttttt	ttttaaaaca	gtttttcaca	acaaaattta	ttagaagaat	agtggttttg	60
aaaactctcg	catccagtga	gaactaccat	acaccacatt	acagctngga	atgtnctcca	120
aatgtctgtg	caaatgatac	aatggaaaca	ttcaatctta	cacatgcacg	aaagaacaaag	180
cgcttttgac	atacaatgca	caaaaaaaca	aggggggggg	gaccacatgg	attaaaattt	240
taagtactca	tcacatacat	taagacacag	ttctagtcca	gtcnaaaatc	agaactgcnt	300
tgaaaaattt	catgtatgca	atccaaacca	agaacttnat	tggtgatcat	gantnctcta	360
ctacatcnac	cttgatcatt	gccagggaacn	aaaagttnaa	ancacnngt	acaaaaaana	420
tctgtaattn	anttcaacct	cctgaacngaa	aaatnttntt	tatacactcc	c	471

<210> 191

<211> 402

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (402)

<223> n = A,T,C or G

<400> 191

gagggattga	aggtctgttc	taagtctggm	ctgttcagcc	accaaactcta	acaagttget	60
gtcttccact	cactgtctgt	aagcttttta	accagagwg	tatcttcata	aatagaacaa	120
attcttccac	agtcacatct	tctaggacct	ttttggattc	agttagtata	agctcttcca	180
cttcccttgt	taagacttca	tctggtaaa	tcttaagttt	tgtagaaagg	aattyaattg	240
ctogttctct	aacaatgtcc	tctccttgaa	gtattttggt	gaacaaccca	octaaagtcc	300
ctttgtgcac	ccatttttaa	tatacttaat	agggcattgk	tncactaggt	taaattctgc	360
aagagtcac	tgtctgcana	agttgcgtta	gtatatctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (601)

<223> n = A,T,C or G

<400> 192

gagctcgggat	ccaataatct	ttgtctgagg	gcagcaacaa	tatncagtg	catgghaact	60
ggctctacccc	acatgggagc	agcatgccc	agntatataa	ggtcattccc	tgagtcagac	120
atgcctytctt	gaytacccgt	tgccaaagtgc	tggtgattct	yaacacacyt	ccatcccggt	180
ctttctgtgga	aaaaactggca	cttktctgga	actagcarga	catcacttac	aaattcaccc	240
acgagaccc	tgaaaagggt	aacaaagcga	ytcttgcat	gctttttgtc	cctccggcac	300
cagttgtcaa	tactaacccg	ctgggtttg	tccatccat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtactg	aagaactct	tcttttggtt	caaaagcacc	tcttggtgac	420
tggtggatca	ggttcccatt	tcccagtcyg	aatgttcaca	tgccatattt	wacttcccac	480
aaaacattgc	gatttgaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcgatgta	gcccggcagg	gccaaggcag	gcgccttgag	ccccaccagg	agcagaagca	600
g						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (608)

<223> n = A,T,C or G

<400> 193

atacagccca	natcccacca	cgaagatgag	cttggtgact	gagaacctga	tgccgtcact	60
ggtecccgctg	tagccccagg	gaactctccac	ctgctgggag	cggttgatgc	tgcaactcytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccay	tccgtggcttg	gggtkgacgg	180
tkaagtgcag	gaagaggctg	accacctctgc	ggteccaccag	gatgcccag	tgtgcccggac	240
ctgcagcgaa	actcctcgat	ggcatgagc	gggaagcgaa	tgaggcccag	ggccttgccc	300
agaaccttcc	gcctgttctc	tgccgtccac	tgccgtgct	gcccgtgava	ctgggcctcg	360
gaccagoggga	caaaaggcrt	tgaaacagccg	caactccagg	atgcccagtg	tgtccggctc	420
caggamngsc	accagcgtgt	ccagggtccat	gtccgtggaag	ccctccgagg	gttatggcgt	480
ctgcagtggt	tttgctcgatg	ttctccaggc	acaggctggc	cagctgcggg	tcacggaaga	540
gtcgcgcctg	cgtgagcagc	atgaaggcgt	tgtccggctcg	cagttcttct	tcagggaactc	600
cacgcaat						608

<210> 194

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (392)

<223> n = A,T,C or G

<400> 194

gaacgggctgg	accttgcttc	gcattgtgct	tgctggcagg	gaataccttg	gcaagcagyt	60
ccagtcaggag	cagccccaga	ccgctgcgcg	ccgaagctaa	gcctgcctct	ggccttccc	120
tccgcctcaa	tgacagaaca	gtagtgggag	cactgtgttt	agagttaaga	gtgaacactg	180
tttgatttta	cttgggaakt	tcctctgtta	tatagctttt	cccaatgcta	atttccaaac	240
aacaacacaa	aaataacatg	tttgctgttt	aagttgtata	aaagtagggt	attctgtatt	300
taaagaaaat	attactgtta	catatactgc	ctgcaatttc	tgtatttatt	gkinctstgg	360
aaataaatat	agttattaaa	ggttgtcant	cc			392

<210> 195
 <211> 502
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (502)
 <223> n = A,T,C or G

<400> 195
 ccattkaggg ggtkaggkyc cagtttyccga gtggaagaaa caggccagga gaagtgcgtg 60
 ccgagctgag gcagatgttc ccacagtgac cccagagacc stgggatata gtytctgacc 120
 cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc 180
 aagggaaggc cccattccgg ggatgttccc cggaggaggaa gggaaggggc tctgtgtgac 240
 ccccaagagg aagaggccct gagtcctggg atcagacacc ccttcacgtg tatccccaca 300
 caaatgcaag ctcccaagg tccctctctca gtccctcttc atacacctg amcggccact 360
 gacacacacc caccagagc acgcccaccg ccctggggar tgtgtctaaag gartogcngg 420
 gcacgtgga catctngtc cagaaggggg cagaatcttc aatogangga ctgarcmstt 480
 gctnanaaaa aaaaaaaaaa aa 502

<210> 196
 <211> 665
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (665)
 <223> n = A,T,C or G

<400> 196
 gggtacttgg ttctattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc 60
 cctctggaag ccttgcgcag agcggacttt gtaattgttg gagaataact gctgaatttt 120
 wagctgtttk gagtgtattc gcaccactgc accacaaat tcaatatgaa aacyawttga 180
 actwatctat tatcttgtga aaagtataac aatgaaaatt ttgttcatac tgtatctkac 240
 aagtatgatg aaaaagcaaa gatataatc cttttattat gttaaattat gattgccatt 300
 attaatcggc aaaaatgtga gtgtatgttc ttttcacagt aatatatgcc ttttgtaact 360
 tcaattgggt attttattgt aatgartta caaaattctt aatttaagar aatggatgtg 420
 watatttatt tcaattaatt ctttctctgt ttaogtwaat ttgaaaaga wtgcabgatt 480
 tcttgacaga aatogatat gatgtgtggt aagtagcttg acccacatcc ctatgagttt 540
 ttcttagaat gtataaagg ttagcccat cnaacttcaa agaaaaaat gaccacatac 600
 tttgcaatca ggctgaaatg tggcatgctn ttctaattcc aactttataa actagcaaan 660
 aagtg 665

<210> 197
 <211> 492
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (492)
 <223> n = A,T,C or G

<400> 197
 ccttnctttt ttttttttgc aggaaggatt ccatttattg tggatgcatt ttcacaatat 60
 atgtttattg gagcgatcca ttatcagtga aaagtatcaa gtgtttataa naktttttagg 120

```

aaggcagatt cacagaacat gctngtcngc ttgcagtttt acctegtana gatnacagag      180
aattatagtc naaccagtaa acnaggaatt tacttttcaa aagattaaat ccaaactgaa      240
caaaattcta ccoctgaaact tactccatcc aaatatgtga ataanagtca gcagtgatac      300
attctctctt gaactttaga tttcttagaa aaatatgtaa tagtgatcag gaagagctct      360
tgttcaaaag tacaacnaag caatgttccc ttaccatagg ccttaattca aactttgatc      420
catttcactc ccatcacggg agtcaatgct acctggggaca cttgtatttt gttcatnctg      480
ancntggctt aa

```

```

<210> 198
<211> 478
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{478}
<223> n = A,T,C or G

```

```

<400> 198
ttntttttgn atttcantct gtannaanta ttttcattat gtttattana aaaatatnaa      60
tgtntccacn acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac      120
tgagtatatt ttgaaaagga caagttttaa gtanacncat attgcccanc atancacatt      180
tatacatggc ttgattgata tttagcacag canaaactga gtgagttacc agaaanaaat      240
natatatgtc aatcngattt aagatacaaa acagatccta tggtaacatan catcnbtgtag      300
gagttgtggc tttatgttta ctgaaagtca atgcagttcc tgtacaaaga gatggccgta      360
agcattctag tactctact ccatgggtta gaatcgtaca cttatgttta catatgtnca      420
gggtaagaat tgtgttaagt naanttatgg agaggtccan gagaaaaatt tgatncaa      478

```

```

<210> 199
<211> 482
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{482}
<223> n = A,T,C or G

```

```

<400> 199
agtgaactgt cctccaacaa aaccttttga tcaagtttgt ggcactgaca atcagaccta      60
tgctagtctc tgtcatctat tgcctactaa atgcagactg gagggggacca aaaaggggca      120
tcaactccag ctggattatt ttggagcctg caaatctatt cctacttgta pygactttga      180
agtgattcag tttcctctac ggatgagaga ctgggtcaag aatatactca tgcagcttta      240
tgaagccnac totgaacacg ctgggttatct nagatgagaa ncagagaaat aaagtcnaga      300
aaatttacct ggangaaaag aggcctttnng ctggggacca tcccattgaa ctttctctta      360
anggacttta agaanaaaact acccatgtn tgngtatcc tggtgccngg cpgtttantg      420
aacntngacn ncaccttntt ggaatanant cttgacngcn tccatgaactt gtcctctctc      480
ga

```

```

<210> 200
<211> 270
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> {1}...{270}
<223> n = A,T,C or G

```

```

<400> 200
cggcgcgaag tgcaactcca gctggggcgcg tgcggacgaa gattctgcca gcagttgggc 60
cgactgcgac gacggcggcg ggcacagtgc caggtgcagc gggggcgccg ggggtcttgc 120
aaggctgagc tgacgcgcga gaggctgtgt cagctccac gaccttgaag ccgtcgggga 180
cagccgggaa agagcccggt gaangcggga ggcctcggg agccctcgg gaaggcggc 240
cagagagata cgcaggtgca ggtggcgcg 270

```

```

<210> 201
<211> 419
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (419)
<223> n = A,T,C or G

```

```

<400> 201
tttttttttt ttttggaaac taactgcgagc acagcaggtc agcaacaagt ttattttgca 60
gctagcaagg taacagggta gggcatgggt acatgttcag gtcaacttcc ttgttcgtgg 120
ttgattgggt tgtctttatg ggggcggggg ggggtagggg aaanogaagc anaantaaca 180
tggagtgggt gcacctccc tgtagaacct ggttacnaaa gcttggggca gttcacctgg 240
tctgtgaccg tcattttctt gacatcaatg ttattagaag tcaggatata ttttagagag 300
tccactgtnt ctggagggag attaggggtt ctggccaana tcccaancaa atccactga 360
aaaagttgga tgatncangt acngaatacc ganggcatan ttctcatant cggtgggca 419

```

```

<210> 202
<211> 509
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (509)
<223> n = A,T,C or G

```

```

<400> 202
ttentttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 60
tggcaactta tocattttta ttcaaaaatg tctacaaant ttnaatncnc cattatacng 120
gttatttttc aaaatctaaa ntttactcaa atntnagcca aantccttac ncaaatnnaa 180
tctnncnaaa aatcaaaaat atactntctt ttcagcaaac ttngttacat aaatcaaaaa 240
aatatatacg gctgggtgtt tcaaaagtac attatcttaa cactgcacac atnttttnnaa 300
ggaactaaaa caaaaaaaa cactnccgca aagggttaag ggaacaacaa attentttta 360
caacancnnc nattataaaa atcatatctc aaatccttagg ggaatatata ctccacacng 420
ggaacttaac tttactnca ctttggttat ttttttanaa ccattgtntt gggcccaaca 480
caatggnaat nccnccnccn tggactagt 509

```

```

<210> 203
<211> 583
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (583)
<223> n = A,T,C or G

```

<400> 203

tttttttttt	tttttttftga	cccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgaat	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaattc	ttccattttt	tccctattcc	aagtcaattt	300
gcttctctag	cctcattttc	tagctcttat	ctactattag	taagtggott	tttctctaaa	360
agggaaaaca	ggaagagana	atggcacaca	aaacaacat	tttatattca	tatttctacc	420
tacgttaata	aaatagcatt	ttgtgaagcc	agctcaaaag	aaggcttaga	tctttttatg	480
tccattttag	tcactaaaag	atatacaaa	tgcagaatg	caaaagggtt	gtgaacattt	540
attcaaaagc	taataaaga	tatttcacat	actcatcttt	ctg		583

<210> 204

<211> 589

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (589)

<223> n = A,T,C or G

<400> 204

tttttttttt	tttttttttt	tttttttttt	tttttttttt	ttganaatga	ggatcgagtt	60
tttcaactct	tagatagggc	atgaagaaaa	ctcatctttc	cagctttaa	ataacaatca	120
aactctttat	gctatatcat	attttaagtt	aaactaatga	gtcactggct	tatcttctcc	180
tgaaggaaat	ctgttcaatt	ttctcattca	tctagttata	tcaagtaact	ccttgcata	240
tgagaggttt	ttcttctcta	tttacacata	tatttccatg	tgaatttgta	tcaaaccttt	300
attttctatg	aaactagaaa	ataactgttt	cttttgcata	agagaagaga	acaatatnag	360
cattacaaaa	ctgctcaaat	tggttggtta	gnttatccat	tataattagt	tnggcaggag	420
ctaatacaaa	tcacattttc	ngacnagcaa	taataaaaac	gaagtaaccg	ttaaatatcc	480
aaaataatta	aagggaacatt	tttagcctgg	gtataattag	ctaattcaat	ttacaagcat	540
ctattnagaa	tgaattccca	tgttattact	centagcccc	acacaatgg		589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (545)

<223> n = A,T,C or G

<400> 205

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
agaaaagtgc	cttacattta	ataaaagtgt	gttctctcaa	gtgatcagag	gaattagata	120
tngtcttgaa	caccaatatt	aatttcgagg	aaatacacca	aaatacatta	agtaaacttat	180
ttaagatcat	agagcttgta	agtgaaaaaga	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tattagcaaa	taaaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaaggatag	attacttagt	gatagattct	360
tatgtacttt	gcatanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aagggggcga	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatnng	480
aaggattaga	tatgtttcct	ttgccaatat	taaaaaaata	ataatgttta	ctactagtga	540
aacc						545

<210> 206

<211> 487

<212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1) ... (487)
 <223> n = A,T,C or G

<400> 206
 tttttttttt ttttttagtc aagttttctna tttttattat aattaaagtc ttggtcattt 60
 catttattag ctctgcaact tacatattta aattaaagaa acgttnttag acactgtna 120
 caatttataa atgtaagggtg ccattattga gtanatatat tectccaaga gtggatgtgt 180
 cctttctccc accaactaat gaancagcaa cattagtta attttattag tagatnatac 240
 actgctgcaa acgctaattc tcttctccat ccccatgtng atattgtgtt catgtgtgag 300
 ttggttagaa tgcatacaca atctnacsat caacagcaag atgaagctag gcntgggctt 360
 tcggtgaaaa tagactgtgt ctgtctgaat caaatgatct gacctatctt cgggtggcaag 420
 aactcttcga accgcttctt caaaggcngc tgcacacatt gtggcntctn ttgcaactgt 480
 ttcamaa 487

<210> 207
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (332)
 <223> n = A,T,C or G

<400> 207
 tgaattgggt aaaagactgc atttttanaa ctagcaactc ttatttcttt cctttaaaaa 60
 tacatagcat taatcccaa atcctattta aagacctgac agcttgagaa ggtcactact 120
 gcatctatag gaccttcttg tggctctggt gttacntttg aantctgaca atccttgana 180
 atctttgcat gcagaggagg taaaagggtat tggattttca cagaggaana acacagcgca 240
 gaaatgaagg ggccaggctt actgagcttg tccactggag ggtcactggg tgggacattg 300
 aaaagaaggc agcctaggcc ctggggagcc ca 332

<210> 208
 <211> 524
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (524)
 <223> n = A,T,C or G

<400> 208
 agggcgtggt gcgagggggt ttactgtttt gtctcagtaa caataaatat aaaaagactg 60
 gttgtgttcc ggcacctcc aaccacgaag ttgatttctc ttgtgtgcag agtgactgat 120
 tttaaaggac atggagcttg tcacaatgtc acaatgtcac agtgtgaagg gcacactcac 180
 tcccggtga ttcaacttta gcaaccaaca atagctcatg agtccatact tgtaaatact 240
 tttggcagaa tacttnttga aacttgca gaataactaa gatccaagat atttcccaaa 300
 gtaaatagaa gtgggtcata atattaatta cctgttcaca tcagcttcca tttaaaagtc 360
 atgagccag acactgacat caactaagc coacttagac tctcaccac cagtctgtcc 420
 tgtcatcaga caggaggctg tcaacttgac caaattctca ccagtcacac atctatccaa 480
 adaccattac ctgatacact tccggtaatg cccaccttg gtga 524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209
 gggtagagaa atccagagtt gccatggaga aaattccagt gtcagcattc ttgctccttg 60
 tggccctctc ctacactctg gccagagata ccacagtcaa acctggagcc aaaaaggaca 120
 caaaggactc tggacccaaa ctgccccaga cctctctca 159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (256)
 <223> n = A,T,C or G

<400> 210
 actccctggc agacaaaggg agaggagaga gctctgttag ttctgtgttg ttgaactgcc 60
 actgaatttc ttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta 120
 tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat 180
 ttgcaggggtg naaatgggan ggctgggttg ttanatgaac agggacatag gaggtaggca 240
 ccaggatgct aaatca 256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (264)
 <223> n = A,T,C or G

<400> 211
 acattgtttt tttagataa agcattgaga gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattatc agttccatgt ttatagccta gttaaggaga 180
 ggggagatac attcngaaag aggactgaaa gaaatactca agtnggaaaa cagaaaaaga 240
 aaaaaggag caaatgagaa gcct 264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (328)
 <223> n = A,T,C or G

<400> 212
 acccaaaat ccaatgctga atatttggct tcattattcc canattcttt gattgtcaaa 60
 ggatttaabg ttgtctcagc ttgggcaact cagttaggac ctaaggatgc caggccggcag 120
 gtttatatat gcagcaacaa tattcaagcg cgacaacagg ttattgaact tgccccccag 180


```

ctnaatttca tccccattga cttggggtcc ttatcatcag ccagagagat tgaaaattta      240
ccctacnac tccttactct ctgganaggg ccagtgggtgg tagctataag cttgggcaca      300
tttttttttc ctttattcct ttgtcaga                                         328

```

<210> 213

<211> 250

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (250)

<223> n = A,T,C or G

<400> 213

```

acttatgagc agagcgacac atccnagtgt agactgaata aaactgaatt ctctccagtt      60
taaagcattg ctcaactgaag ggtatagaagt gactgccagg agggaaagta agccaaggct      120
cattatgcca aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt      180
ttcaatattt gcatgaacct gctgataaac catgttaana aacaaatato tctctnacct      240
tctcatgggt                                         250

```

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (444)

<223> n = A,T,C or G

<400> 214

```

accagaate caatgctgaa tatttggcct cattattccc agattctttg attgtcaaag      60
gattcaatgt tgtctcagct tgggcacttc agttaggacc taaggatgcc agccggcagg      120
tttatatatg cagcaacaat attcaagcgc gacaaacagg tattgaactt gcccgccagt      180
tgaatttcat tccattgac ttgggatacct tatcatcagc canagagatt gaaaatttac      240
ccctaagact ctttactctc tggagagggc cagtgggtgg agctataagc ttggccacat      300
ttttttttcc tttattcctt tgtcagagat ggcattcacc catatgctan aaaccaacag      360
agtgaacttt acaaaattcc tataganatt gtgaataaaa ccttacctat agttgccatt      420
acttgcgtct cctaataata cctc                                         444

```

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (366)

<223> n = A,T,C or G

<400> 215

```

acttatgagc agagcgacac atccaagtgt aaactgaata aaactgaatt ctctccagtt      60
taaagcattg ctcaactgaag ggtatagaagt gactgccagg agggaaagta agccaaggct      120
cattatgcca aagganatat acatttcaat tctccaaact tcttctcat tccaagagtt      180
ttcaatattt gcatgaacct gctgataagc catgttgaga aacaaatato tctctgacct      240
tctcatoggt aagcagaggg tgtaggcaac atggaccata gccaanaaaa aaactagtaa      300
tccaagctgt tttctacact gtaaccaggc ttccaaccaa ggtggaaato tcttatactt      360

```

gggtgccc

366

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccggggc caggagaatc tccgcttgtc 60
 caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat 120
 taataaaaag tnnaaaaggc ctcttctcaa ctcttttccc ttnggctgga aaatttaaaa 180
 atcassaaatc tccnnaagct ntcagctat catatatact ntatcctgaa aaagcaacat 240
 aattcttctc tccctccttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataatttga 60
 tcttgcttat aattttctat tttaataagg aaatagcaaa ttgggggtggg ggggaatgtg 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180
 atgaataatc tgtatgatta tatgtctota gtagatatt ataattagcc acctacccta 240
 atatcttcca tgccttgtaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 accaaggtgg tgcattaccg gaantggatc aangacacca tegtggccaa cccctgagca 60
 cccctatcaa ctcccttttg tagtaaaatt ggaaccttgg aaatgacag gccaaagctc 120
 aggcctcccc agttctactg acctttgtcc ttangtntna ngtccagggt tgctaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219

tactgttttg tctcagtaac aataaataca aaaagactgg ttgtgttccg gcccaccca 60
accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tggg 114

<210> 220
<211> 93
<212> DNA
<213> Homo sapien

<400> 220
actagccagc acaaaaggca gggtagcctg aattgcttcc tgccttttac atttctttca 60
aaataagcat ttagtgctca gtccctactg agt 93

<210> 221
<211> 167
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> [1]...[167]
<223> n = A,T,C or G

<400> 221
actangtgca ggtgogcaca aatatttgct gatattccct toatcttggg ttccatgagg 60
tcttttgccc agcctgtggc tctactgtag taagtttctg ctgatgagga gccagnatgc 120
ccccactac ctccctgac gctcccccana aatcacccaa cctctgt 167

<210> 222
<211> 351
<212> DNA
<213> Homo sapien

<400> 222
agggcgctgg ggggaggggg gtactgacct cattagtagg aggatgcatt ctggcaccoc 60
gttcttccac tgtcccccaa tcttcaaaag gccatactgc ataaagtcaa caacagataa 120
atgtttgctg aattaaagga tggatgaaaa aaattaataa tgaatttttg cataatccaa 180
ttttctcttt tatatttcta gaagaagttt ctctgagcct attagatccc gggaaatcttt 240
taggtgagca tgattagaga gcttgtaggt tgcctttaca tatatctggc atatttgagt 300
ctcgtatcaa aacaatagat tggtaaaagg ggtattatkg tattgataag t 351

<210> 223
<211> 383
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> [1]...[383]
<223> n = A,T,C or G

<400> 223
aaaacaaaca aacaaaaaaa acaattcttc attcagaaaa attatcttag ggactgatat 60
tggtaattat ggtcaattta atwrtttkt ggggcatttc cttacattgt cttgcaaga 120
tcaaaatgtc tgtgccaaaa ttttgtattt tatttgagga cttcttatca aaagtaatgc 180
tgcccaggga agtctaagga attagtagtg tcccmtrac ttgtttggag tgtgctatcc 240
taaaagattt tgatttctct gaatgacaat tatattttta ctttggtggg ggaanagtt 300
ataggaccac agtcttcaat tctgatactt gtaaatattt cttttattgc acttgttttg 360
accattaagc tatatgttta aaa 383

<210> 224
 <211> 320
 <212> DNA
 <213> Homo sapien

<400> 224
 cccctgaagg cttcttgtta gaaaatagta cagttacaac caatagggaac aacaaaaaga 60
 aaaagttagt gacattgtag tagggagtgt gtacccctta cccccctca aaaaaaaat 120
 ggatcacatgg ttaaaaggata raagggcaat attttatcat atgttctaaa agagaaggaa 180
 gagaaaatac tacgttctcr aantggaagc ccttaaaggt gctttgatac tgaaggacac 240
 aaatgtggcc gtccatcctc ctttaragtt gcatgaactg gacaaggtaa ctgttgagct 300
 tttaractcm gcattgtgac 320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225
 gaggaactgca gccgcactc gcagccctgg caggogggcac tggatcatgga aaaogaattg 60
 ttctgtctgg ggtcctgggt gcacccgcag tgggtgtgtgt cagccgcaca ctgtttccag 120
 aactcctaca ccatcggtgt gggcctgcac agtcttgagg ccgaccaaga gccaggggagc 180
 cagatgggtgg aggcagcct ctccgtacgg caccragagt acaacagacc ctgtctcgt 240
 aacgaacctca tgcctatcaa gtbggaagaa tccgtgtccg agtctgacac catccggagc 300
 atcagcatbg cttgcagtg cctaccgctg gggaaactctt gctctgttct tggctgggggt 360
 ctgtctggga acggcagaa gtctaccgtg ctgcagtgct tgaacgtgtc ggtggtgtct 420
 gagggaggtct gcagtaagct ctatgaccog ctgtacccac ccagcatgtt ctgcgccggc 480
 ggagggcaag accagaaggc ctcttgcaac ggtgactctg gggggccctt gatctgcac 540
 ggttacttgc agggccttgt gtctttcgga aaagccctgt gtggccaagt tggcgtgcc 600
 ggtgtctaca ccaacctctg caaattcact gagtggatag agaaaaacct ccaggccagt 660
 taactctggg gactgggaac ccataaatt gacccccaaa taatccctgc ggaaggaa 720
 caggaatatc tgttccagc cctcctccc tcaggccag gagtccagge cccagcccc 780
 tctcctctca aaccaagggt acagatccc agccctcct cctcagacc caggagtcca 840
 gacccccag cctcctctcc ctccagacca ggagtcagge cctcctccc ccagaccag 900
 gagtccagac cccccagccc ctctcctc agacccccca accctcctt cccagacc ccagggtccag 1020
 ctccctcaga ctccagaggtc caagccccc accctcctt cccagacc ccagggtccag 1080
 gtccagccc ctctcctc agacccagcg gtccaatgac acctagact cctctgtaca 1140
 cagtgcctcc ttgtggcag ttgacccaac cttaccagtt ggttttctat cttttgtccc 1200
 tttcccttag atccagaaat aaagtctaag aggaagcgca aaaaaaaa aaaaaaaa 1214
 aaaaaaaa aaaa

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226
 acccagtatg tgcagggaga cggaaaccca tgtgacagcc cactccacca gggttcccaa 60
 agaacctggc ccagtcataa tcattcatcc tgacagtggc aataatcag ataaccagt 119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227
 acaattcata gggacgacca atgaggacag ggaatgaacc cggctctccc ccagccctga 60

tttttgctac	acatgggggtc	cctttttcatt	ctttgcaaaa	acactgggggt	ttctgagaaac	120
acggagcgggt	cttagcacaa	tttgtgaaat	ctgtgtaraa	cggggcttttg	caggggagagat	180
aatttttctc	ctctggaggga	aagggtgggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaacc	aggatggaaac	ggcagacccc	tgaaaaacgaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaacccccat	ctaaatttct	actggaaaaag	360
aggggcctcct	caggagcagt	ccaagagttt	tcaaaagataa	cgtgacaaact	accatctaga	420
ggaaagggtg	caacctcagc	agagaagccg	agagcttaac	tctgggtcgtt	tccagagaca	480
acctgctggc	tgtcttggga	tgcgcaccagc	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggacatgaag	ctgaggacac	tgggcttcaa	cactgagttg	tcatgagagg	600
gacaggctct	gcctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcaagc	660
aaagccatto	ccacaaatcc	agaccatccc	atgaagcaac	gagacccaaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttccag	cctagatggg	agtcgtgt			818

<210> 228
 <211> 714
 <212> DNA
 <213> Homo sapien

<400> 228						
actggagaca	ctgttgaact	tgatcaagac	ccagaccacc	ccagggtctcc	ttcgtgggat	60
gtcatgacgt	ttgacatacc	tttggaaacga	gcctcctcct	tggagatgg	aagacogtgt	120
tgttggccga	cctggcctct	cctggcctgt	ttcttaagat	gcggagtcac	atttcaatgg	180
taggaaaagt	ggcttcgtaa	aatagaagag	cagtcactgt	ggaactacca	aatggcgaga	240
tgtcgggtgc	acattgggggt	gctttgggat	aaaagattta	tgagccaaact	attctctggc	300
accagattct	aggccagttt	gttccactga	agcttttccc	acagcagtc	acctctgcag	360
gctggcagct	gaatggcttg	cgggtggctc	tgtggcaaga	tcacactgag	atcgatgggt	420
gagaaggcta	ggatgcttgt	ctagtgttct	tagctgtcac	gttggctcct	tccaggttgg	480
ccagacgggtg	ttggccactc	ccttctaaaa	cacaggcgcc	ctcctgggtga	cagtgacccc	540
cgttgggtatg	ccttggccca	ttccagcagt	cccagctatg	catctcaagt	ttggggtttg	600
ttctttctgt	taatgttctt	ctgtgttgtc	agctgtcttc	atttccctggg	ctaagcagca	660
ttgggagatg	tggaccagag	atccactcct	taagaaccag	tggcgaaaga	cactttcttt	720
cttcaactctg	aagtagctgg	tgggt				744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229						
cgagtctggg	tttgtctat	aaagtttgat	ccctcctttt	ctcctccaaa	tcattgtgaac	60
cattacacat	cgaaataaaa	gaaagggtggc	agacttgccc	aacgccaggc	tgacatgtgc	120
tgcagggttg	ttgtttttta	attattattg	ttagaaaagt	cacccacagt	ccctgttaat	180
ttgtatgtga	cagccaactc	tgagaaggto	ctatbtttcc	acctgcagag	gatccagtct	240
cactaggctc	ctccttgccc	tcacactgga	gtctccggcc	gtgtgggtgc	ccactgaact	300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230						
cagcagaaca	aatacaata	tgaagagtgc	aaagatctca	taaaatctat	gctgagggaat	60
gagcgacagt	tcaaggagga	gaagcttgca	gagcagctca	agcaagctga	ggagctcagg	120
caatataaag	tcctgggtca	cactcaggaa	cagagactga	cccagtttaag	ggagaagttg	180
cggaaggga	gagatgcctc	cctctcattg	aatgagcato	tccaggccct	cctcaactccg	240
gatgaaccgg	acaagtccca	ggggcaggac	ctccaagaaa	cagacctcgg	cgcgacccac	300
g						301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcaagc tggcaaatct ctgtcaggto agctccagag aagccattag tcatttttagc 60
 cagggaactcc aagtccacat ccttggcaac tggggacttg cgcaggttag ccttgaggat 120
 ggcaaccagg gactttctcat cagggaagtgg gatgtagatg agctgatcaa gacgggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtg ccgccaatga tgaacacatt 240
 tttttttgtg gacatgccat ccatttctgt caggatcttg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtatt tegtgagaag ttoaacacca aaactggaac atagttctcc ttcaagtgtt 60
 ggcgacagcg gggcttctctg attctggaat ataactttgt gtaaattaac agccacctat 120
 agaagagttc atctgctgtg aaggagagac agagaactct gggttccgtc gtctgttcca 180
 cgtgctgtac caagtgtctg tgcagcctg ttacctgttc tcaactgaaa tctggctaatt 240
 gctcttctgt atcacttctg attctgacaa tcaatcaatc aatggcctag agcaactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgactgact tcccagtaag gctctctaag gggtaagtag gaggatccac aggtattcgag 60
 atgctaaggc cccagagatc gtctgatcca accctcttat ttccagaggg gaaaatgggg 120
 cctagaagtt acagagcacc tagctggtgc gctggcacc cttggctcac acagactccc 180
 gagttagctg gactacaggc acacagtcac tgaagcaggg cctgttagca attctctggc 240
 tacaatttaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatatgaat ttaaaaatta caagcaaaga 60
 catttttatcc atcatgatgc tttcttttgt ttcttctttt cgttttcttc tttttctttt 120
 tcaatttccag caacatactc ctcaatttct tcaggattta aaatcttgag ggattgatct 180
 cgcctcatga cagcaagttc aatgtttttg ccacctgact gaacctcttc caggagtgc 240
 ttgatccaca gcttaattgg cagatcatct gcttcaatgg ctccgtcagt atagttcttc 300
 t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235

tggtggtgtg	catcaggcgg	gtttgagaaa	tattcaattc	tcagcagaag	ccagaatttg	60
aattccctca	tcttttaggg	aatcatttac	caggtttggg	gaggattcag	acagctcagg	120
tgctttcact	aatgtctctg	aactctctgt	cctctttcgt	catggatagt	ccaatataa	180
atgttatctt	tgaactgatg	ctcataggag	agaatataag	aactctgagt	gatatcaaca	240
ctagggattc	aaagaaatat	tagatttaag	ctcacactgg	tca		283

<210> 236

<211> 301

<212> DNA

<213> Homo sapien

<400> 236

aggtctctca	ccaaactgct	gaagcacggg	taaaattggg	aagaagtata	gtgcagcata	60
aatactttta	aatcgatcag	atttccctaa	cccacatgca	atcttcttca	ccagaagagg	120
toggagcagc	atcatttaata	ccaaagcagaa	tgctaatag	ataaatacaa	tggtatatag	180
tggttagacg	gcttcctgag	tacagtgtac	tgtggtatcg	taactctggac	ttgggttgta	240
aagcatcgtg	taccagtcag	aaagcatcaa	tactcgacat	gaacgaatat	aaagascacc	300
a						301

<210> 237

<211> 301

<212> DNA

<213> Homo sapien

<400> 237

cagtggtagt	ggtaggtggac	gtggcgctgg	togtgggtgc	ttttttgggtg	ccggtcacia	60
actcaatttt	tgctcgctcc	tttttggcct	tttccaattt	gtccatctca	atcttctggg	120
ccttggctaa	tgctcctatg	taggagtctt	cagaccagcc	atggggatca	aacatatact	180
ttgggtagtt	ggtagcagc	togtcaatgg	cacagaatgg	atcagcttct	cgtaaataca	240
gggttcaggaa	attctttctt	cctttggata	atgtagttca	tatccattcc	ctcctttatc	300
t						301

<210> 238

<211> 301

<212> DNA

<213> Homo sapien

<400> 238

gggcagggtt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgacct	60
gttcacagtt	cagccccctg	ctcagaaaaa	caacggggca	gctaaggaga	ggaggaggca	120
ccttgagact	tccggagtgc	aggctctcca	gggttcccca	gcccattcaat	cattttctgc	180
acccccctgc	tgggaagcag	ctccctgggg	ggtaggaatg	ggtagctaga	agggatttca	240
gtgtgggacc	cagggtctgt	tcttcacagt	aggaggtgga	agggatgact	aatttcttta	300
t						301

<210> 239

<211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct	agggaattct	ttatttagta	atgtcctaac	ataaaagtcc	acataactgc	60
ttctgtcaaa	ccatgatact	gagctttgtg	acaaccaga	aataactaag	agaaggcaaa	120
cataatacct	tagagatcaa	gaaacattta	cacagttcaa	ctgttttaaaa	atagctcaac	180
attcagccag	tgagtagagt	gtgaatgcra	gcatacacag	tatacaggte	cctcaggga	239

<210> 240

<211> 300
 <212> DNA
 <213> Homo sapien

<400> 240
 ggccctaatg aagcagcagc ttccacattt taacgcagggt ttaocgstgat actgtccttt 60
 gggatctgcc ctccagtggg accttttaag gaagaagtgg gcccaagcta agttccacat 120
 gctgggtgag ccagatgact tctgttccct ggtaacttct tcaatgggg ogaatggggg 180
 ctgccagggt tttaaaatca tgcttcattc tgaagcacac ggtaacttca cctcctcac 240
 gctgtgggtg tactttgatg aaaataccca ctttgttggc ctttctgaag ctataatgtc 300

<210> 241
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 241
 gaggtctggg gctgaggtct ctgggctagg aagaggagtt ctgtggagct ggaagccaga 60
 cctcttttggg ggaacctcca gcagctatgt cgggtgtctct gaggggaatgc aacaaggctg 120
 ctctccatg tacttgaaaa ctgcaaaactg gactcaactg gaagggaagt ctgctgccag 180
 tgtgaagAAC cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct 240
 tctcctctct gtcataggt ctctctcaag catcttttgt tgtcaggggc ctaaaaggga 300
 g 301

<210> 242
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 242
 cogaggctct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt 60
 tgtggcatct cctcatcttc tacattgtag aatcaagagt gtaataaat gtatctgat 120
 gtcttcaaga atatatcatt ccttttccac tagaaccat tcaaaatata agtcaagaat 180
 cttaatatca acaaatatat caagcaact ggaaggcaga ataactacca taatttagta 240
 taagtaccca aagtcttata aatcaaaagc cctaattgata accattttta gaattcaatc 300
 * 301

<210> 243
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 243
 aggtaaagtc cagtttgaag ctcaaaagat ctgggtatgag cataggctca tgcacgacat 60
 ggtggcccaa gctatgaaat cagagggagg ctccatctgg gctgttaaaa actatgatgg 120
 tgacgtgcag tggactctg tggcccaagg gtatggctct ctgggcataa tgaccagagt 180
 gctggtttgt ccagatggca agacagtga agcagaggct gccacgggga ctgtacccc 240
 tcaatccgc atgttcaga aaggacagga gacgtccacc aatcccattg ctccatttt 300
 t 301

<210> 244
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 244
 gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa 60
 gtcagtcaat cccatttgca ggaatgtct gtgcacatgc ctctgtagag agcagcattc 120

ccagggagcct tggaaacagc tgacactgta aggtgcttgc tccccagac acatccctaaa 180
 aggtgttgta atgggtgaaaa cgtcttcctt cttcattgce ccttcctatt tatgtgaaca 240
 actgtttgtc ttttgtgtat ctttttttaa ctgtaaagtt caattgtgaa aatgaatacc 300

<210> 245
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 245
 gtctgagtat ttaaaatggt attgaaatta tccccacca atgcttagaaa agaaagaggt 60
 tatatactta gataaaaaat gaggtgaatt actatccact gaaatcatgc ctttagaatt 120
 aaggccagga gatattgtca ttaatgtara cttcaggaca ctagagtata gcagccctat 180
 gttttcaag agcagagatg caattaaata ttgttttagca tcaaaaaggc cactcaatac 240
 agctaatsaa atgaaagacc taattttctaa agcaattctt tataattttac aaagttttta 300
 g 301

<210> 246
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 246
 ggtctgtcct acaatgcctg cttcttgaaa gaagtcggca cttctctagaa tagctaaata 60
 acctgggctt attttaaaga actctttgta gctcagattg gtcttctctat ggctaaaata 120
 agtgcctctt gtgaaaatta aataaaacag ttaattcaaa gccttgatat atgttaccac 180
 taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc 240
 caaatgtgtc ttacaaaaca cgttcctaac aaggtatgct ttacactacc aatgcagaaa 300
 c 301

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggctca tggatcagag ctcaactgg agggaaaagc atttcgggta 60
 gcctaagagg ggcactggcg gcagcacaac caagggaagg aaggttggtt cccccaogct 120
 gtgtcctgtg ttcaggtgcy acacacaaac ctcctgggaa caggatcacc catgcgctgc 180
 ccttgatgat caagggttggg gcttaagtggt attaaggag gcaagttctg ggttccttgc 240
 cttttcaaac catgaagtca ggctctgtat cctcctttt cctaactgat attctaaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta cacccttact 60
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa cttaagaatt 120
 acaggaagaa agtgggttgg aagacagcca aagaaataaa agcagattaa attgtatcag 180
 gtacattcca gctgttggc aactccataa aaacatttca gatttttaac cogaatttag 240
 ctaatgagac tggatttttg ttctttcatgt tgtgtgtcgc agagctaaaa actcagttcc 300
 c 301

<210> 249
 <211> 301

<212> DNA

<213> Homo sapien

<400> 249

gtccagagga	agcacctggg	gctgaaatag	gcttgccctg	ctgtgaactt	gcacttggag	60
ccctgacgct	gctgttctcc	cggaaaaacc	cgacccgacct	cgcgatctc	cgccccccc	120
ccaggagagc	acagcagtga	ctcagagctg	gtcgcacact	gtgcctccct	cctcaccgcc	180
catcgtaatg	aattattttg	aaaattaatt	ccaccatcct	tccagattct	ggatggaaag	240
actgaatctt	tgactcagaa	ttgtttgctg	aaaagaatga	tgtgaacttc	ttagtcattt	300

a

301

<210> 250

<211> 301

<212> DNA

<213> Homo sapien

<400> 250

ggctctgtac	aaggacttgc	aggctgtggg	aggcaagtga	cccttaacac	tacacttctc	60
cttatchtta	ttggcttgat	aaacataatt	atttctaaca	ctagcttatt	tccagttgcc	120
cataagcaca	tcagtacttt	tctctggctg	gaatagtaaa	ctaaagtatg	gtacatctac	180
ctaaaagact	actatgtgga	ataatacata	ctaataaagt	attacatgat	ttaaagacta	240
caataaaacc	aaacatgctt	ataacattaa	gaaaaacaat	aaagatacat	gattgaaccc	300

a

301

<210> 251

<211> 301

<212> DNA

<213> Homo sapien

<400> 251

gcagaggtcc	tacattttgg	ccagtttccc	cctgcacccct	ctccaggggc	cctgcctcat	60
agacaacctc	atagagcata	ggagaactgg	ttgcctctgg	ggcaggggga	ctgtctggat	120
ggcaggggtc	ctcaaaaatg	ccactgtcac	tgccaggaaa	tgtttctgag	cagtacacct	180
cattgggata	aatgaaaagc	ttcaagaaat	ctccaggctc	actctcttga	aggcccgagg	240
cctctggagg	ggggcagtgg	aatcccagct	ccaggagcga	tctctgtcga	aagatatcct	300

c

301

<210> 252

<211> 301

<212> DNA

<213> Homo sapien

<400> 252

gcaaccaatc	actctgtttc	acgtgacttt	tatcaccata	caatttcttg	catttctcca	60
ttttctacat	tgtagaatca	agagtgtaaa	tasatgtata	tcgatgtctt	caagaatata	120
tcatttcttt	ttcactagga	accatttcaa	aataataagt	aagaatctta	atatcaacaa	180
atatatcaag	caaactggaa	ggcagaataa	ctaccataat	ttagtataag	tacccaaagt	240
tttataaata	aaaagcccta	atgataacca	tttttagaat	tcaatcatca	ctgtagaatc	300

a

301

<210> 253

<211> 301

<212> DNA

<213> Homo sapien

<400> 253

ttccctaaag	agatgttatt	ttgttggggt	ttgttccccc	tccctctcga	ttctcgtacc	60
caactaaaaa	aaaaaaataa	agaaaaaatg	tgctgcgttc	tgaaaaataa	ctccttagct	120

```

tgggtotgatt gttttcagac cttaaaaatat aaacttggtt cacaagcttt aatccatgtg      180
gattttttttt cttagagaac cacaanaacat aaaaggagca agtoggactg aatacctgtt      240
tccatagtgcc ccacagggtt ttcttcacat tttctccata ggaaantgct ttttcccagg      300
g                                          301

```

```

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 254
cgctgcgcct ttcccttggg ggagggggcaa ggccagaggg ggtccaagtg cagcaogagg      60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc      120
ccaaatctct tcatcttacc ctggtgggact cctgactgta gaattttttg gttgaacaa      180
gaaaaaaata aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc      240
acttaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgc      300
t                                          301

```

```

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

```

```

<400> 255
agcttttttt tttttttttt tttttttttt ttcatkaaa aatagtgcct tttattataa      60
attactgaaa tgtttttttt ctgaatatata atataaatat gtgcaaagtc tgacttggat      120
tgggattttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg      180
agggaaaagg actggaggtg gaatctttat aaaaaacaa agtgattgag gcagattgta      240
aacattatta aaaaaaanga aacaaacaaa aaatatagaga aaaaaaccac cccaaacacac      300
aa                                          302

```

```

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G

```

```

<400> 256
gttccagaaa acattgaagg tggttcccaa aagtctaaat agggataccc cctctagcct      60
aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc      120
acccccaaaa gcttgagacac cttgagcaca cagttatgac caggacagac tcctctctat      180
aggcaaatag ctgctggcaa actggcatta cctgggttgt ggggatgggg gggcaagtgt      240
gtggcctctc ggcctggtta gcaagaacat tcagggtagg cctaaagtta tegtgttagt      300
t                                          301

```

```

<210> 257
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 257
gttggtggagg aactctggct tgctcattaa gtccctactga ttttcaactat cccctgaatt      60
tccccactta tttttgtctt tcactatcgc aggcottaga agaggtctac ctgcctccag      120
tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaac      180

```

```

gtcacattac tcccttcagt gatctcttgt agaagtgcc atccctgaat gccaccaaga      240
tcttaattctt cactatctta atcttatctc tttagactctt ctctacaccc gagaaggctc      300
c                                          301

```

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 258

```

cagcagtagt agatgccgta tgcacgcacg cccagcactc ccaggatcag caccagcacc      60
agggggcccag ccaccaggcg cagaagcgaag ataacacagta ggctcaagac cagagccacc      120
cccagggcaa caagaatcca ataccaggac tgggcacaaat cttaaaagat cttaacactg      180
atgtctcggg cattgagggt gtcaataana cgtgatccc ctgctgtatg gtggtgtcat      240
tggtgatccc tgggagcgcc ggtggagtaa cgttggtcca tggcaagcag cgcacacaa      300
c                                          301

```

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 259

```

tcataatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg      60
gtgtctctgaa gtgatttggg cccctgaggg cagacacctc agtaggaatc ccagtgggaa      120
gcaagcccat aaggaagccc aggatctctt gtgatcagga agtgggccag gaaggctctg      180
tcagctcac atctcatctg catgcagcac ggaccggatg cggccactgg gtcttggctt      240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcataccttg ctcagggtgg      300
c                                          301

```

<210> 260

<211> 301

<212> DNA

<213> Homo sapien

<400> 260

```

ttttttttct ccttaaggaa aaagaaggaa caagtctcat aaaaacaaat aagcaatgg      60
aagggtgtctt aacttgaaaa agattaggag tcactgggtt acaagttata attgaatgaa      120
agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaacaa caggattaac      180
tagggcaaaa taataagtg tgtggaagcc ctgataagtg cttaataaac agactgatto      240
actgagacat cagtacctgc ccggggcgcc gctcgagcag aattctgcag atatccatca      300
c                                          301

```

<210> 261

<211> 301

<212> DNA

<213> Homo sapien

```

<400> 261
aaatattcga gcaaatcctg taactaatgt gtctccataa aaggttttga actcagtgaa      60
tctgcttcaa tccacgattc tagcaatgac ctctcggaca tcaaaagctcc tettaaggtt      120
agcaccaaact attccataca attcatcagc aggsaataaa ggctcttcag aaggttcaat      180
ggtagacatcc aatttcttct gataatttag attcctcaca accttcttag ctaagtgaag      240
ggcatgatga tcatccaaag cccagtggtc acttactcca gaatttctgc aatgaagatc      300
a                                           301

```

```

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 262
gaggagagcc tgttacagca ttgtgaagca cagaatactc caggagtatt tgtaattgtc      60
tgtgagcttc ttgcgcgaag tctctcagaa atttcaaaag atgcaaatcc ctgagtcacc      120
cctagaattc ctaaaaccaga tctcttgggg ctggaacctg gcaactctgca tttgtaatga      180
gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtgcc      240
catcattacc cccacattat aatgggatag attcagagca gatactctcc agcaaaagaat      300
c                                           301

```

```

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1) ... (301)
<223> n = A,T,C or G

```

```

<400> 263
tttagcttgt ggtaaatgac tcacaaaact gattttaaaa tcaagttaat gtgaattttg      60
aaaattacta cttaattcta attcacaata acaatggcat taagggttga cttgagttgg      120
ttcttagtat tattkatggt aaataggttc ttaccacttg caaatcactg gccacctcat      180
taatgactga ctcccagta aggtctctta aggggttaagt angaggatcc acaggatttg      240
agatgctaag gcccagaga tegtgtgac caacctctt attttcagag gggaaaatgg      300
g                                           301

```

```

<210> 264
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 264
aaagacgtta aaccactcta ctaccacttg tggaaactctc aaagggtaaa tgacaaaacc      60
aatgaatgac tctaaaaaca atatttacat tteatgggtt gttagacata aaaaaacaag      120
gtggatagat ctagaattgt aacattttta gaaaaccata acatttgaca gatgagaag      180
ctcaattata gatgcaaagt tataactaaa ctactatagt agtaaagaaa tacatttcac      240
accttcata caattcact atcttggctt gagggactcc ataaaatgta tcacgtgcat      300
a                                           301

```

```

<210> 265
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 265

```

tgcccaagtt	atgtgttagt	gtatccgcac	ccagaggtaa	aactacactg	tcctctttgt	60
cttcttgtga	cgcagtattt	cttctctggg	gagaagccgg	gaagtcttct	cctggctcta	120
catactcttg	gaagtctcta	atcaactttt	gttccatttg	cttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaacaa	cacttgccca	cttctgtaaa	gaatccaaag	240
cagtcacagg	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

<210> 266
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 266	
taccgtctgc	ccttctctcc
atccaggcca	tctgcgaatc
tacatgggtc	ctcctattcg
acaccagatc	actctttcct
ctaccacacg	gcttgcctatg
agcaagagac	acaacctcct
ctcttctgtg	ttccagcttc
ttttcctgtt	cttcccaccc
cttaagtctc	attcctgggg
atagagacac	caatacccat
aacctctctc	ctaagcctcc
ttataaccca	gggtgcacag
ccagactcc	tgacaactgg
taaggccaat	gaactgggag
ctcacagctg	gctgtgcctg
a	

<210> 267
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 267	
aaagagcaca	ggccagctca
gcttgcctcg	gccatctaga
ctcagcctgg	ctccatgggg
gtctctcagt	ctgagtcocat
ccaggaaaag	ctcacctaga
ccttctgagg	ctgaactctc
atcctcacag	gcagcttctg
agagccctgat	attcctagcc
ttgatggctc	ggagttaagc
ctcattctga	ttcctctcct
tcttttcttt	caagttggct
ttcctcacat	cctctctgtc
aattcgcttc	agcttctctg
ctttagccct	catttccaga
agcttctctc	ctttggcctc
t	

<210> 268
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 268	
aatgtctcac	tcaactactt
cccagcctac	cgtggcctaa
ttctgggagt	cttctctctta
gatctctggga	gagctgggtc
ttctaaggag	aaggagggaag
garagatgta	actttggatc
tgaagagga	agtotaatgg
aagtaattag	tcaacggctc
ttgttttagac	tcttgggata
tgctgggtgg	ctcagtgagc
ccttttggag	aaagcaagta
ttattcttaa	ggagtaacca
cttccattg	ttctactctc
taccatcctc	aattgtatat
ctctgtattct	ctggagaaat
a	

<210> 269
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 269	
taacaatata	cactagctat
cttttttaact	gtccatcatt
agcaccatg	aagattcaat
aaaattacct	ttattcacac
atctcaaaac	aattctgcaa
attcttagtg	aagtttaact
atagtcacag	accttaataa
ttcacattgt	ttctatgtgc
tactgaaaat	aagttcacta
cttttctgga	tattctttac
aaaatcttat	taaaattcct
ggtattctca	cccccaatta
tcagtagra	caaccacctt
atgtagtttt	tacatgatag
ctctgttagaa	gtttcacatc
t	

<210> 270
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 270
 cattgaagag cttcttgcgaa acatcagaac acaagtgcct ataaaattaa ttaagcotta 60
 cacaagaata catattcctt ttatttctaa ggagtttaac atagatgtag ctgatgtgga 120
 gagcttgctg gtgcagtga tattggataa cactattcat ggccgaattg atcaagtcaa 180
 ccaactcctt gaactggatc atcagaagaa ggggtggtgca cgatatactg cactagataa 240
 tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaac 300
 a 301

<210> 271
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1} ... {301}
 <223> n = A,T,C or G

<400> 271
 aaaaggttct cataagatta acaattttaa taaatatitg atagaacatt ctctctcatt 60
 ttatagctc atcttttagg ttgatattca gticatgctt cccttgctgt tcttgatcca 120
 gaattgcaat cacttcacga gctgttatc gctccaattc tctataaagt ggggtccaagg 180
 tgaaccacag agccacagca cactcttttc ccttggtgac tgccttcacc ccctgagggt 240
 tctctctccc agatganaac tgatcatgag cccacatttt gggttttata gaagcagtca 300
 c 301

<210> 272
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 272
 taaatgcta agccacagat aacaccaatc aaatggaaca aatcactgto ttcaaatgto 60
 ttatcagaaa accaaatgag cctggaatct tcaataaac taaacatgco gtatttagga 120
 tcaataaatt cctcatgat gagcaagaaa aattcttttg gcaaccctcc tgcateraca 180
 gcactctctc caacaaatat aaccttgagt ggcttcttgt aatctatggt ctttgctttc 240
 ctaaggactt ccattgcac tccatacaata tttctctctac gcaccactag aattaagcag 300
 g 301

<210> 273
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1} ... {301}
 <223> n = A,T,C or G

<400> 273
 acatgtgtgt atgtgtatct ttgggaaaaa aanaagacat ctctgtttayt atttttttgg 60
 agagangctg ggacatggat aatcacwtaa ttctgtayta tyactttaat ctgactygaa 120

```

gaacogtcta aaaaataaat ttaccatgtc ctatatctct catagtatgc ttatttcacc 180
tctttctctg ccagagagag tatcagtgac ananatttma ggggtgaamac atgmattggg 240
gggaattnty tttacngagm accctgcccg agcgcctcg makongant cgcgaananc 300
t 301

```

```

<210> 274
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 274
cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg 60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa 120
tgattctctt tggaaatctga atgagatcaa gaggccagct ttagcttctg gaaaagtcca 180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataattgaggt aaccgaaggc 240
aattgtgctt cttttgataa gaagctttct tggtcatatc aggaatttcc aganaaagtc 300
c 301

```

```

<210> 275
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{301}
<223> n = A,T,C or G

```

```

<400> 275
tcggtgtcag cagcaogtgg cattgaacat tgcattgtgg agcccaaaac acaganaatg 60
gggtgaaatt ggccaacttt ctattaactt atgttggcaa ttttgccacc aacagtaagc 120
tggccttctt aataaaagaa aattgaaagg tttcttacta aacggaatta agtagtggag 180
tcaagagact ccagggcttc agogtacctg cccgggcggc cgtctgaagc cgaattctgc 240
agatatccat cacactggcg gncgctcgan catgcattca gaaggnccaa ttccgccctat 300
a 301

```

```

<210> 276
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 276
tgtacacata ctcaataaat aaatgactgc attgtgggat tattactata ctgattatat 60
ttatctctgt acttctaact agaaaatgta tccaaaagca aaacagcaga tatadtaaat 120
taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180
caatacattt aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aatttctgtg 240
aaaactattc agtatgttcc ctttgcctta tgtctgagaa ggtcttctct caatggggat 300
g 301

```

```

<210> 277
<211> 301
<212> DNA
<213> Homo sapien

```


<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 ttgtttgatg tcaagtatttt attacttggg ttatgagtgcc tcaactggga aatttctaaag 60
 atacagagga attggaggaa gcagagcaac tgaatttatt ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgcocca cctcgtcct 180
 caccatagtg gggagactaa agtggccacg gatttgcctt angtggtcag tgcgttctga 240
 gttonctgtc gattacatct gaccagtctc ctttttccga agtcctctcg tccaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaaat 60
 aecatatcaa atgaacacag gaaaatgaag ctgacaattt atggaaagcca ggccttgtca 120
 cagttctctac tgttattatg cattacctgg gaatttatat aagcccttaa taataatgca 180
 aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacaggttt 240
 tatgtgttct tcgttaacttt atggantagg tactcggccg cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa tgacaaagct tgccttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatatcaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc 120
 tttagacctt accttccagc caccocacag tgcctgatat ttcagagtca gtcatttggtt 180
 atacctgtgt agttccaaag cccataagct agaaaaaa atatttctag ggagcactac 240
 catctgtttt cccatgaaat gccacacaca tagaactcca acatcaattt cattgcacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtactggag ttttccctccc ctgtgaaaac gtaactactg ttgggagtga attgaggatg 60
 tagaaaggtg gtggaaacca attgtggtca atggaaatag gagaatatgg ttctcactct 120

tgagaaaaaa	acctaagatt	agcccaggta	gttgccctgta	acttcagttt	ttctgcccgg	180
gtttgatata	gttttagggt	ggggcttagat	taagatctaa	attacatcag	gacaaagaga	240
cagactatta	actccacagt	taattaaagga	gggatgttcc	atgcttattt	gttaaagcag	300
t						301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281	
aggtacaaga	aggggaatgg
gcccagcaat	ccaaatcctg
atgtggtagc	aattggcttta
tgtgtagcac	actgcatatta
tgacaaagtga	aacaggatct
g	

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282	
caggtactac	agaattaaaa
tcacagaaccc	aaaaacttaag
agcgcagaag	caaagcccag
cgcagaagca	aagccraggc
cagaagcaaa	gccccagggcag
a	

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283	
atctgtatag	ggcagacaaa
cactttgagg	gctttataat
gtgcatctcc	agacatagta
acttcccagg	ttttatgcaa
ggaaacatat	acatttttaa
g	

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284	
caggtacaaa	acgotattaa
gcttcgtgtg	tgggcaaaag
gcagattagg	tttttgacaa
ggtagagggc	aaggcatgag
actggagtaa	aagaaaacaa
a	

<210> 285

<211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 285

acatcaccat gatcggatcc cccacccatt atacgttgta tgtttacata aatactcttc	60
aatgatcatt agtgttttaa aaaaaatatt gaaaactcct tctgcatccc aatctctaac	120
caggaaagca aatgctatct acagacotgc aagccctccc tcaaacnaaa ctatttcttg	180
attaaatatg tctgacttct tttgaggta cactgactagg caaatgctat ttacgatctg	240
caaaagctgt ttgaagagtc aaagccccc a tttctggag cctgtaacag	300
t	301

<210> 286
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 286

taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct	60
tgtatattat ttttgcctta cagtggatca ttctagtagg aaaggacagt aagatttttt	120
atcaaaatgt gtcabgccag taagagatgt tatattcttt tctcatttct tcccccacaa	180
aaaataagct accatatagc ttataagctt caaatttttg ccttttacta aaatgtgatt	240
gtttctgttc attgtgtatg cttcatcacc tatattaggc aaattccact ttttcccttg	300
t	301

<210> 287
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 287

tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatactga gaatgttggg	60
cccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaaatatg	120
aaatgatttg gttatgaacg cacagttagg gcagcagggc cagaatcctg accctctgcc	180
ccgtgggttat ctctctccca gcttggctgc ctcatgttat cacagtattc cattttgttt	240
gttgcattgc ttgtgaagcc atcaagattt tctcgtctgt ttctcttca ttggtaatgc	300
t	301

<210> 288
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 288

gtacacctaa ctgcaaggac agctgaggaa tghtaatggc agccgctttt aaagaagtag	60
agtcaatagg aagacaaatt ccagttccag ctcaagtctgg gtatctgcaa agctgcacaa	120
gatctttaaa gacaaattca agagaatatt tccctaaagt tggcaatttg gagatcctac	180
aaaagcatct gcttttgtga tttaatttag ctcatctggc cactggaaga atccaaacag	240
tctgccttaa ttttggatga atgcctgatg gaaattcaat aatttagaaa gtcaaaaaaa	300
a	301

<210> 289
 <211> 301

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 289
ggtaacactgt ttccatggtt tgtttctaca cattgetacc tcagtgctcc tggaaactta 60
gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg 120
ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgaactggc cctgacttaa 180
cgttctataa atgaatgtgc tgaagcaaaag tgcccatggc ggcggcgcan aagagaaaga 240
tgtgttttgc ttgggactct ctgtgggtccc ttccaatgct gtgggtttcc aaccagnnga 300
a 301

<210> 290
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 290
aacactgagct cttcttgata aatatacaga atgcttggca tatacaagat totatacbac 60
tgaactgatct gttcatttct ctccacagctc ttacccccaa aagcttttcc accctaagtg 120
ttctgacctc cttttctaatt cacagtaggg atagaggcag anccacctac aatgaacatg 180
gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctagcagtgc 240
tgccctgaac aaaaacattt ctccatgtct cattttcttc atgcttcaag taacagtgcg 300
a 301

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

<400> 291
caggtaccaa tttcttctat cctagaaaca ttctathtta tgttggttga acataacaaac 60
tatatcagct agattttttt tctatgcttt acctgctatg gaaaatttga cactattctgc 120
tttactcttt tgtttatagg tgaatcacaa aatgtatttt tatgtattct gtagtccaat 180
agccatggct gtttacttca ttttaatttat ttagcctaaa gacattatga aaaggccctaa 240
acatgagctt cacttcccca ctaactaatt agcatctggt atttcttaac cgtaatgcct 300
a 301

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 292

```

accctttttagt agtaaatgtct aataataaat aagaaatcaa ttttataagg tccatatatgc      60
tgtattaaat aatttttaag tttaaaagat aaataaccat cacttttaaat gttggtattc      120
aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg      180
ggaaatatag caattyatga atgttnatta aattccagtt ataatagtgg ctacacactc      240
tcactacaca cacagacccc acagtcctat atgcacaaa cacatttcca taacttgaaa      300
a                                          301

```

```

<210> 293
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 293
ggtaccaagt gctgggtgcc gccctgtacc tgttctcact gaaaagtctg gctaattgctc      60
ttgtgtagtc acttctgatt ctgacacatc atcaatcaat ggcctagagc actgactgtt      120
aacacaaaag tcactagcaa agtagcaaca gctttcaagtc caaatacaaa gctgttctgt      180
gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg      240
ccgcgacccg gctaagccga attctgraga tatccatcac actggcggcc gctcgagcat      300
g                                          301

```

```

<210> 294
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> [1]... (301)
<223> n = A,T,C or G

```

```

<400> 294
tgaccataa caatatacac tagctatctt tttaaactgtc catcattagc aaccaatgaag      60
attcaataaa attacattta ttacacacac tcaaaacaa tctgcacaa tttagtgaaag      120
tttaactata gtcacaganc ttaaataatc acattgtttt ctatgtctac tgaaaataag      180
ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc      240
cccaattata cagtagcacc accaacttat gtgtttttta catgatagct ctgtagaggt      300
t                                          301

```

```

<210> 295
<211> 305
<212> DNA
<213> Homo sapien

```

```

<400> 295
gtactctttc tctcccctcc tctgaattta attctttcaa ctgcgaattt gcaaggatta      60
cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac      120
ttggtttctg aatccatctt gctttttccc cattggaaac agtcatteac ccactctctga      180
actggtagaa aaactctctga agagctagtc fatcagcctc tgacaggtga attggatggt      240
tctcagaacc atttcaccca gacagcctgt tctatctctg tttactaaat tagtttgggt      300
tctct                                          305

```

```

<210> 296
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 296
aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct      60

```

```

cacctagtag taaactaaaa ataaactgaa accttatgga atctgaagtt attttccttg      120
attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac      180
tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt      240
tgtcattact ataaatttta aaatctgtta ataagatggc ctataggagg gaaaaagggg      300
c                                          301

```

```

<210> 297
<211> 300
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

```

```

<400> 297
actgagtttt aactggacgc caagcaggca aggcctggaag gttttgctct ctttctgcta      60
aaggtttttg aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga      120
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt      180
tccatcattg ggagtgact ggccatccct ccaaatctgt ctgggctggc ctgagtggtc      240
acgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg      300

```

```

<210> 298
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 298
tatgggggtt gtcacccaaa agctgatgct gagaaaggcc tccctggggc cccctcccgcc      60
ggcatctgag agacctgggt tccagtggt tctggaaatg ggtcccagtg ccgcccggctg      120
tgaagctctc agatcaatca cgggaagggc ctggcggtgg tggccacctg gaaccaacct      180
gtcctgtctg ttacatttc actaycaggt tttctctggg cattaonatt tgttccccta      240
caacagtgac ctgtgcattc tgcgttggcc tgctgtgtct gcaggctggc ctccagcgagg      300
t                                          301

```

```

<210> 299
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 299
gttttgagac ggagtttca ctttgttgcc cagactggac tgcattggca gggctctctgc      60
tcactgcacc ctctgctcc caggtttag agattctct ggcctcagct ccaggttagc      120
tgggattgca ggctacgcc accataccca gctaattttt ttgtattttt agtagagacg      180
gagtttcgcc atgttggcca gctgggtctc aactcctgac ctcaagcgac ctgcctgcct      240
cggcctccca aagtgtctga attataggca tgagtcacaa cgcccagcct aaagatatatt      300
t                                          301

```

```

<210> 300
<211> 301
<212> DNA
<213> Homo sapien

```

<400> 300

attcagtttt	atttgetgce	ccagtatctg	taaccaggag	tgccacaaa	tcttgccaga	60
tatgtccac	arccactggg	aaagggtccc	acctggctac	ttcctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaattg	agtttcacta	cctgccagtc	tcaaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aatcagaggt	ttgccccacc	gtcttgttac	240
tataaagcct	gcctctaaca	gtccttgett	cttcacacca	atcccgagcg	catcccccat	300
g						301

<210> 301

<211> 301

<212> DNA

<213> Homo sapien

<400> 301

ttaaattttt	gagaggataa	aaaggacaaa	taattctagaa	atgtgtcttcc	ttcagttctgc	60
agaggacccc	aggtctccaa	gcaaccacat	ggtcaggggc	atgaataatt	aaaagttcgt	120
gggaactcac	aaagacccct	agagctgaga	caccacaaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacacccac	aacagtggga	gttcacaaag	acctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
c						301

<210> 302

<211> 301

<212> DNA

<213> Homo sapien

<400> 302

aggtacacat	ttagcttctg	gtaaatgact	cacaaaaactg	attctaaaaat	caagttaatg	60
tgaattttga	aaattactac	ttaatcttaa	ttcacaataa	caatggcatt	aaggctttgac	120
ttgagttcgt	tcttagtatt	atttatggta	aataggctct	taccacttgc	aaataactgg	180
ccacatcatt	aatgactgac	ttcccagtaa	ggctctctaa	ggggttaagta	ggaggatcca	240
caggatttga	gatgctaagg	ccccagagat	cgtttgatcc	aacctcttta	ttttcagagg	300
g						301

<210> 303

<211> 301

<212> DNA

<213> Homo sapien

<400> 303

aggtaccaac	tgtggaaata	ggtagaggat	cattttttct	ttccatatac	actaagttgt	60
atattgtttt	ttgacagttt	aacacatctt	cttctgtcag	agattctttc	acaatagrac	120
tggctaattg	aactacogct	tgcattgtta	aaatgggtgt	ttgtgaaatg	atcataggcc	180
agttaacgggt	atgtttttct	aactgatctt	ttgctcgttc	caaagggacc	tcaagacttc	240
catcgatttt	atatctgggg	tctagaaaag	gagttaatct	gttttccctc	ataaatccac	300
c						301

<210> 304

<211> 301

<212> DNA

<213> Homo sapien

<400> 304

acatggatgt	tattttgcag	actgtcaacc	tgaatttgta	tttgettgc	attgcctaatt	60
tattagtttc	agtttcagct	tacccacttt	ttgtctgcaa	catgcaraaa	agacagtgc	120
cttttttagtg	tatcatatca	ggaatcatct	cacattgggt	tgtgcatta	ctgggtgcagt	180
gaatttcagc	caettgggtg	aggtggaggt	ggccatatgt	ctccactgca	aaattactga	240

ttttccctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct 300
c 301

<210> 305
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)... (301)
<223> n = A,T,C or G

<400> 305
gangtacagc gtggtcaagg taacaagaag aaaaaaatgt gactggcatc ctgggatgag 60
caggggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aasatgggag 120
taaaggagga gaacagata caaatctcc aactcagtat taaggatttc tcatgcctag 180
aatattggta gaacaagaa tacattcata tggcaataa ctaaccatgg tggacaacaa 240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag 300
a 301

<210> 306
<211> 8
<212> PRT
<213> Homo sapien

<400> 306
Val Leu Gly Trp Val Ala Glu Leu
1 5

<210> 307
<211> 637
<212> DNA
<213> Homo sapien

<400> 307
acagggrratg aagggaaggg gagaggatga ggaagccccc ctggggattt ggtttgggtcc 60
ttgtgatcag gtggtctatg ggggttctcc ctacaagaa gaatccagaa atagggggcac 120
attgaggaat gatacttgag cccaaagagc attcaatcat tgttttattt gccttmtttt 180
cacaccattg gtgagggagg gattaccacc ctgggggttat gaagatggtt gaacacccca 240
cacatagcac cggagatctg agatcaacag tttcttagcc atagagattc acagcccaga 300
gcaggaggac gcttgcacac catgcaggat gacatggggg atgcgctcgg gattgggtgtg 360
aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacgggtggg caaactctga 420
tttccgtggg ggaatgtcat ggtcttgott tactaagttt tgagactggc aggtagtga 480
actcattagg ctgagaacct tgtggaatgc acttgaccca actgatatag gaagtagcca 540
ggtggggagcc ttcccagtg ggtgtgggac atatctggca agatktttgtg gcactcctgg 600
ttacagatac tggggcagca aataaaactg aatcttg 637

<210> 308
<211> 647
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)... (647)
<223> n = A,T,C or G

<400> 308

acgattttca	ttatcatgta	aatcggggtca	ctcaagggggc	caaccacagc	tgggagccac	60
tgtcaggggg	aagggttcata	tgggaactttc	tactgcccac	ggttctatac	aggatataaa	120
ggngcctcac	agtatagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccacccctct	gaccttttgg	aactcctctg	accttttaga	acaagcctac	ctaatactctg	240
ctagagaaaa	gaccaacaac	ggcctcaaa	gatctcttac	catgaaggtc	tcagctaatt	300
cttgggtaag	atgtgggttc	cacattagg	tctgaatatg	gggggaagg	tcaatttgc	360
catttttgtgt	gtggataaa	tcaggatgcc	caggggcoag	agcagggggc	tgtttgtctt	420
gggaacaaatg	gttgagcata	taaccatagg	ttatggggga	caaaaacaaca	tcaaatgtcac	480
tgtatcaatt	gccatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	tttttctcct	gcttctgact	tgataaaaagg	ggaccgt		647

<210> 309

<211> 460

<212> DNA

<213> Homo sapien

<400> 309

actttatagt	ttaggctgga	cattggaaaa	aaaaaaaaagc	cagaacaaca	tgtgatagat	60
aatatgatig	gctgcacact	tcragactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaataac	tcattcatttt	tggccagcag	ttgtttgatc	180
accaaacatc	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtccg	240
ggggaattta	ttcctggcaa	ttttaatttg	actccttatg	tgagagcagc	ggctacccag	300
ctgggggtgg	ggagcgaacc	cgtcacctagt	ggacatgtag	tggcagagct	cctggtaacc	360
acctagagga	atacacaggc	acatgtgtga	tgccaagcgt	gacacctgta	gcactcaaat	420
ttgtcttggt	tttgtctctc	ggtgtgtaag	attcttaagt			460

<210> 310

<211> 539

<212> DNA

<213> Homo sapien

<400> 310

acgggaetta	tcaaatataag	ataggaaaaag	aagaaaactc	aaataattata	ggcagaaatg	60
ctaaagggtt	taaaatatgt	caggatttga	agaaggcatg	gataaagaac	aaagttcagt	120
taggaagag	aaacacagaa	ggaagagaca	caataaaagt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagatttctg	ggaaatgggt	tgggttcttg	tatggctatg	attttagcaa	240
taattcttat	ggcagagaaa	gctaaaaatc	tttagcttgc	gtgaatgac	acttgctgaa	300
ttcctcaagg	taggcatgat	gaaggaggg	tttagaggaga	nacagacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaagggaag	aacttatggc	480
atattttcac	ccccacaasa	gtcagttaaa	tattgggaca	ctaaccatcc	aggtcaaga	539

<210> 311

<211> 526

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(526)

<223> n = A,T,C or G

<400> 311

cnaatttgag	ccaatgacat	agaattttac	aatcaagaa	gcttattctg	gggcatttc	60
ttttgaogtt	ttctctaaac	tactaaagag	gcattaatga	tcataaatt	atattatcta	120
catttacagc	atttaaaatg	tgttcagcat	gaaatattag	ctacagggga	agctaataaa	180

atataacatg	gaataaagat	ctgtcccttaa	atataatcta	caagaagact	ttgatatttg	240
tttttcacaa	gtgaagcatt	cttataaagt	gtcataacct	ttttggggaa	actatgggaa	300
aaaatgggga	aactctgaag	gglttttaagt	atcttaacct	aagctacaga	ctccataacc	360
ttcttttaca	gggagctcct	gcagccccta	cagaaatgag	tggctgagat	tcttgattgc	420
acagcaagag	cttctcatct	aaaccctttc	cctttttagt	atctgtgtat	caagtataaa	480
agttctataa	actgtagtnt	acttatttta	atccccaaag	cacagt		526

<210> 312
 <211> 500
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (500)
 <223> n = A,T,C or G

cctctctctc	cccacccct	gactctagag	aactgggttt	ctcccagta	ctccagcaat	60
tcatttctga	aagcagttgc	gcacttttat	tccaaagtac	actgcagatg	ttcaaaactct	120
ccattttctct	ttcccttcca	cctgccagtt	ttgctgaactc	tcaacttgc	atgagtgtaa	180
gcatttaagga	cattatgctt	cttctgattct	gaagacaggc	cctgctcatg	gatgactctg	240
gcttcttagg	aaaatatttt	cttcccaaaa	tcagtaggaa	atctaaaactc	atccccctctt	300
tgcagatgct	tagcagcttc	agacatttgg	ttaaagaacc	atgggaaaaa	aaaaaatcct	360
tgctaattgt	gtttcctttg	ttaaccanga	ttcttatttg	notgggtatag	aatatcagct	420
ctgaacgtgt	ggtaaaagatt	tttgtgtttg	aatataggag	aaatcagttt	gctgaaaagt	480
tagtcttaac	tatctattgg					500

<210> 313
 <211> 718
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (718)
 <223> n = A,T,C or G

ggagatttgt	gtggtttgca	gccgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgatcca	gaggtgagaa	ataagaaggg	ctgctgaactt	taccatctga	ggccacacat	120
ctgctgaaat	ggagataatt	aacatcacta	gaacacagcaa	gatgacaata	taattgtctaa	180
gtagtgarat	gtttttgcac	atttccagcc	cttttaasta	tccacacaca	caggaagcac	240
aaaaggagac	acagagatcc	ctgggagaaa	tgccccggccg	ccatcttggg	tcctcgatga	300
gcctcgccct	gtgcctgntc	cggcttggtg	gggaaggaca	ttagaaaatg	aattgatgtg	360
ttccttaaaag	gatggcagga	aaacagatcc	tgctgtggat	atcttatttg	acgggattac	420
agatttgaag	tgaagtcaca	aagtgagcat	taccaatgag	aggaaaacag	acgagaaaat	480
cttgetgggt	cacaagacat	gcaacaaaca	aatgggaata	ctgtgatgac	acgagcagcc	540
aactggggag	gagataccac	ggggcagagg	tcaggatctc	ggccctgctg	cctaactgtg	600
ogttatacca	atcatttcta	tttctaccct	caaacaagct	gtngaataac	tgacttacgg	660
ttcttntggc	ccacatcttc	atnatccacc	centcntttt	aamtttantic	caaantgt	718

<210> 314
 <211> 358
 <212> DNA
 <213> Homo sapien

<400> 314

```

gtttattttac attscagaaa aaacatcaag acaatgtata ctatttcaaa tatatccata      60
cataatcaaa tatagctgta gtacatgttt tcattgggtg agattaccac aaatgcaagg      120
caacatgtgt agatctcttg tottattttt ttgtctataa tactgtattg ttagtccaa      180
gctctcggtg gtccagccac tgtgaaacat gctcccttta gattaacctc gtggacgtc      240
ttgttgatc gtggaactgt agtgccctgt attttgcctc tgtctgtgaa tctgttgc      300
ctgggggcat ttccttgtga tgcagaggac caccacacag atgacagcaa tctgaatt      358

```

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

```

taccacctcc cgcgtggac tgatgagcg catcaccatg gtcaccagca ccatgaaggc      60
ataggtgatg atgaggacat ggaatgggcc cccaaggatg gtctgtccaa agaagcgagt      120
gacccccatt ctgaagatgt ctggaacctc taccagcagg atgatgatag ccccaatgac      180
agtcaccagc tccccgacca gccggatata gtccctaggg gtcatgtagg ctctctgaag      240
tagcttctgc tgttaagaggg tgttgtcccg ggggctcgtg cggttattcg tccctgggctt      300
gagggggcgg tagatgcagc acatggtgaa gcagatgatg t                                341

```

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

```

agactgggca agactottac gcccacact gcaatttggg ttgtttgcg tatccattta      60
tgtggggcctt tctcgagttt ctgattataa acaccactgg agcgatgtgt tgactggact      120
cattcaggga gctctggttg caatattagc t                                151

```

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

```

agaactagtg gatcctaag aaataacctga aacatatatt ggcatttata atgggctcaa      60
atcttcattt atctctggcc ttaacctgg ctccctgagg tgccgcccagc agatcccagg      120
ccagggtctt gttcttgcca cacctgcttg a                                151

```

<210> 318

<211> 151

<212> DNA

<213> Homo sapien

<400> 318

```

actggtggga ggcgtgltt agttggctgt ttccagaggg gtcttccgga gggacctctt      60
gtgcagggtt gtagtgtctt tattctggc gggagaccgc ccattccact gctgaggctg      120
tgggggcggt ttatcaggca gtgataaaca t                                151

```

<210> 319

<211> 151

<212> DNA

<213> Homo sapien

<400> 319

```

aactagtggg tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta      60
catagatagt actagggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg      120

```

caagattggg tttatgtgat ttagtgggt a 151

<210> 320
<211> 150
<212> DNA
<213> Homo sapien

<400> 320
aactagtggg tccactagtc cagtgtgggt gaattccatt gtgttgggt tctagatcgc 60
gaggggtgc ccttttttt tttttttttt ggggggaatt tttttttttt aatagttatt 120
gagtgttcta cagcttacag taaataccat 150

<210> 321
<211> 151
<212> DNA
<213> Homo sapien

<400> 321
agcaactttt tttttcttc aggttatctt aggttagga tttctctca cactgcagtt 60
taggggtgca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
tgctctgag aatcaaatg ctccatacac t 151

<210> 322
<211> 151
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (151)
<223> n = A,T,C or G

<400> 322
atccagcatc ttctctgtt ttttgccttc ctttttcttc ttcttasatt ctgcttgagg 60
tttgggtttg gtcagtttgc cacagggttt ggagatgggt acagctcttc ggcattcggc 120
attgtgcagg gctcgttca nacttccagt t 151

<210> 323
<211> 151
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (151)
<223> n = A,T,C or G

<400> 323
tgaggacttg ttttcttttt ctttattttt aatctcttta ctttgtaaat atattgcta 60
nagactcant tactaccag tttgtgtttt twtgggagaa atgtaactgg acagttagct 120
gttcaatya aaagacactt anccatgtg g 151

<210> 324
<211> 461
<212> DNA
<213> Homo sapien

<220>

<221> misc_feature
 <222> {1}... (461)
 <223> n = A,T,C or G

<400> 324

acctgtgtgg aatttcagct ttctcatgc aaaaggattt tgtatcccrq gcttacttga	60
agaagtggtc agctaaagga atccagggtg ttgggtggac tgttaatacc ttigtatgaas	120
agagttacta ogaatcccat cttgggttcca gctatatcac tgacagcatg gtagaagact	180
gggaacctca cttctagact ttcaoggtgg gacgaacagg gtccagaaac tggcaggggc	240
ctcatacagg gatatacaaa taccctttgt gctacccagg ccttggggaa tcaggtgact	300
cacacaaatg caatagtggg tcaactgcatt ttacactgaa ccaagctaa acccggtgtt	360
gccaccatgc accatggcat gccagagttc aacactgttg ctcttgaasa ttgggtctga	420
aaaaacgcac aagagccctt gccctgccc t agctganga c	461

<210> 325
 <211> 400
 <212> DNA
 <213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctacacat tgcatacctca gtgctcctgg aaacttagct	60
tttgatgtct ccaagtagtc caacttcatt taactctttg Aaactgtatc atctttgcca	120
agtaagagtg gtggcctatt tcagctgctt tgacabaatg actggctcct gacttaacgt	180
ctataaatg aatgtgtctga agcaaatgac ccatggtggc gggaagaag agaagatgt	240
gttttgtttt ggaactctctg ttgtcccttc caatgctgtg ggtttccaa caggggaagg	300
gtcccttttg cactgcnaag tgccataacc atgagcacta cgtaccatg gttctgcctc	360
ctggccaagc aggtctggtt gcaagaatga aatgaatgat	400

<210> 326
 <211> 1215
 <212> DNA
 <213> Homo sapien

<400> 326

ggaggactgc agcccgcaat cgcagccctg gcaggcggca ctgggtcatgg aaaaogaatt	60
gttctgtctg ggggtcctgg tgcatacga gtgggtgctg tcagccgcac actgtttcca	120
gaactcctac accatcgggc tgggcctgca cagtcttgag gccgaacca agccaggagg	180
ccagatggtg gaggccagcc tctccgtacg gcaaccagag tacaacagac ccttgcctgc	240
taacgaacct atgctcatca agttggacga atcogtgbcc gactctgaca ccatccggag	300
catcagcatt gcttcgcagt gccctaccgc ggggaactct tgcctcgttt ctggctgggg	360
tctgtctggc aacggcagaa tgcctaccgt gctgcagtg gtgaacgtgt cggctggctg	420
tgaggaggtc tgcagttagc totatgaccc gctgtaccac cccagcatgt totgcgccgg	480
cggaggggca gaccagaagg actcctgcaa cgggtgactct gggggggccc tcatctgcaa	540
cgggtacttg caggggccttg tgtctttcgg aaaagccccg tgtggccaa gtggcgtgac	600
aggtgtctac accaacctct gcaaatcac tgagtggata gagaanaacc tccaggccag	660
ttaactctgg ggaactggaa cccatgaat tgacccccaa atacatcctg cgggaaggat	720
tcaggataat ctgttcccag cccctcctcc ctcaggccca ggagtccagg ccccagccc	780
ctcctcctcc aaaccaaggg tacagatccc cagccctcc tccctcagac ccaggagtcc	840
agaaccccca gccctcctcc cctcagaccc aggagtcagg cccctcctcc ctcagaccca	900
ggagtcnaga cccccagacc cctcctcctc cagacccagg ggtccaggcc cccaacccct	960
cctccctcag actcagaggt ccaagcccc aacccctcct tccccagacc cagaggtcca	1020
ggtccagacc cctcctcctc cagacccagc ggtccaatgc cacttagact ctccctgtac	1080
acagtgcacc ctgttggcac gttgaaccaa ccttaccagt tgggttttca tttttgtcc	1140
ctttcccta gatccagaaa caaagtctaa gagaagcgca aaaaaaaaaa aaaaaaaaaa	1200
aaaaaaaaaa aaaaaa	1215

<210> 327
 <211> 220

<212> PRT

<213> Homo sapien

<400> 327

```

Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 1          5          10          15
Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 20          25          30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 35          40          45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 50          55          60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
 65          70          75          80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
 85          90          95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100          105          110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115          120          125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130          135          140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145          150          155          160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165          170          175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180          185          190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195          200          205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210          215          220

```

<210> 328

<211> 334

<212> DNA

<213> Homo sapien

<400> 328

```

cgctcgctctc tggtagctgc agccaaatca taaaaggcga ggactgcagc ccgcactcgc      60
agccctggca ggcgggaactg gtcattgaaa acgaattggt ctgctcgggc gtccctggtc      120
atccgcagtg ggtgctgtca gccacacact gtttccagaa ctctacacc atcgggctgg      180
gcctgcacag tcttgaggcc gaccaagagc caggagacca gatggtggag gccca      234

```

<210> 329

<211> 77

<212> PRT

<213> Homo sapien

<400> 329

```

Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly Glu Asp Cys Ser
 1          5          10          15
Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met Glu Asn Glu Leu
 20          25          30
Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35          40          45
His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50          55          60

```

Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
65 70 75

<210> 330
<211> 70
<212> DNA
<213> Homo sapien

<400> 330
cccaacacaa tggcccgatc ccataccctga ctccgccttc aggatcgctc gtctctggta 60
gtgcagcca 70

<210> 331
<211> 22
<212> PRT
<213> Homo sapien

<400> 331
Gln His Asn Gly Pro Ile Pro Ser Leu Thr Pro Pro Ser Gly Ser Leu
1 5 10 15
Val Ser Gly Ser Cys Ser
20

<210> 332
<211> 2507
<212> DNA
<213> Homo sapien

<400> 332
tggtagcgct gcagccggca gagatgggtg agtcatgtt ccgcctgttg ctctccttc 60
tgcccttct tctgtatag gctgggccc aatcaggaa aatgctgtcc agtgggggtg 120
gtacatcaac tgttcagctt cctgggaaag tagttgtgt cacaggagct aatacaggta 180
tcgggaagga gacagccaaa gagctggctc agagaggagc tcgagtatat ttagcttgcc 240
gggatgtgga aaagggggaa ttggtggcca aagagatcca gaccacgaca gggaaccagc 300
aggtgttggg gcggaaactg gacctgtctg atactaagtc tttcgagct ttgtctaagg 360
gcttcttagc tgaggaaaag caccctccacg tttgatcaa caatgcagga gtgatgatgt 420
gtccgtactc gaagacagca gatggctttg agatgcacat aggagtcac cacttgggtc 480
acttctctct aaccatctct ctgctagaga aactaaagga atcagcccca tcaaggatag 540
tcaatgtgtc ttccctcgca catcactgg gaaggatcca ctccataac ctgcaggggc 600
agaaattcta caatgcaggc ctggcctact gtcacagcaa gtagccaac atcctcttca 660
cccaggaaat ggcccgagga ctaaaaggct ctggcggtac gacgtattct gtacacctg 720
gcacagtcda atctgaactg gttcggcact catctttcat gagatggatg tggtaggttt 780
tctccttttt catcaagact cctcagcagg gagcccgac cagcctgcac tgtgccttaa 840
cagaaggtct tgagattcta agtgggaatc attttagtga ctgtcatgtg gcattgggtct 900
ctgcccagga ctgtaattgag actatagcaa ggcggtctgt ggacgtcagt tgbgacctgc 960
tgggctctcc aatagactca caggcagtg cagtggacc caagagaaga ctgcagcaga 1020
ctacacagta ctcttctgca aactgattct cttcaaggt ttccaaaacc tttagcaca 1080
agagagcaaa acctccagc cttgcctgtc tgggtgtcag ttaaaactca gtgtaetgrr 1140
agattcgtct aaatgtctgt catgtccaga ttactttgc ttctgttact gccagagtta 1200
ctagagatat cataatagga taagaagacc ctcatatgac ctgcacagct cattttctt 1260
ctgaaagaaa ctactaccta ggagaatcta agctatagca gggatgattt atgcaaatct 1320
gaactagctt ctctgttcac aattcagttc ctcccaacca accagtcttc acttcaagag 1380
ggccacactg caacctcagc ttaacatgaa taacaaagac tggctcagga gcagggtctg 1440
cccggcatg gtggatcac ggaggtrcgt agttcaagac cagcctggcc aactggtga 1500
aaccctacct ctactaaaaa ttgtgtatat cttgtgtgt ctctctgttt atgtgtgcca 1560
agggagtatt ttcacaaagt tcaaaacagc caaataatc agagatggag caaacagtg 1620
ccatccagtc tttatgcaaa tgaatgtctg caaagggaag cagattctgt atatgttgg 1680
aactaccac caagagocaa tgggtagcag ggaagaagta aaaaaagaga aggagaatac 1740

tggeagataa	tgacacaaat	gaagggaacta	gttaaggatt	aactagccct	ttaaggatta	1800
actagttaag	gattaatagc	aaaagoyatt	aaatatgcta	acatagctat	ggagggaattg	1860
agggcaagca	cccaggactg	atgaggctct	aacaaaaacc	agtgtggcas	aaaaaaaaaa	1920
aaaaaaaaaa	aaaaatccta	aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	1980
attatcttag	ggactgatac	tgttaattat	ggtcaattta	ataatatttt	ggggcatttc	2040
cttaccattgt	cttgacaaga	ttaaaatgtc	tgtgcccaaa	ttttgtattt	tatttggaga	2100
cttcttatca	aaagtaattg	tgcacaagga	agtctaagga	attagttagt	ttcccatcac	2160
ttgtttggag	tgtgctattc	taaaagattt	tgatttcctg	gaatgacaat	tatatcttaa	2220
ctttggtggg	ggaaagagtt	ataggaccac	agtcttcact	tctgataact	gtaaattaat	2280
ctttttattgc	acttgttttg	accattaagc	tatatgttta	gaaatggtoa	ttttaaggaa	2340
aaattagaaa	aattctgata	atagtgcaga	ataaatgaat	taatgtttta	cttaatttat	2400
attgaactgt	caatgacaaa	taaaaattct	ttttgattat	tttttgtttt	catttaccag	2460
aataaaacg	taagaattca	aagtttgatt	acaaaaaaa	aaaaaaa		2507

<210> 333

<211> 3030

<212> DNA

<213> Homo sapien

<400> 333

gcaggcgact	tgcgagctgg	gagcgattta	aaacgctttg	gattcccccg	gcctgggtgg	60
ggagagcgag	ctgggtgccc	cctagattcc	ccgccccgcg	acctcatgag	ccgaccctcg	120
gctccatgga	gcccggcaat	tatgcacact	tggatggagc	caaggatata	gaaggcttgc	180
tgggagcgct	aggggggcgg	aatctggtcg	cccactcccc	tctgaccagc	cacccagcgg	240
cgcctacgct	gatgcctgct	gtcaactatg	cccccttggg	tctgcccagg	togggggagc	300
cgccaaagca	atgcccaccc	tgccttgggg	tgcgccaggg	gacgtcccc	gctcccttgc	360
cttatggcta	ctttggaggc	gggtactact	ccctgcccag	gtcccgaggc	tgcctgaaaa	420
cctgtgcccc	ggcagccacc	ctggccgctg	accccgccgg	gactcccaag	gcccgggaa	480
agtaccccag	ycgccccact	gagtttgcc	tctatccggg	atatccggga	acctaccagc	540
ctatggccag	ttacctggac	gtgtctgttg	tgcagactct	gggtgctcct	ggagaaaccg	600
gacatgactc	cctgttgcc	gtggacagtt	accagtcttg	ggctctcgct	gggtggctga	660
acagccagat	gtgttgccag	ggagaaacga	acccaccagg	tcccttttgg	aaggcagcat	720
ttgcagactc	cagggggcag	cacctctctg	acgcctgggc	ctttcgctgc	ggccggcaaga	780
aacgcattcc	gtacagcaag	gggcagttgc	gggagctgga	gcgggaagtat	gcggctaaac	840
agttcatcac	caaggacaa	aggcgcaaga	tctcggcagc	caccagcctc	tgggagcgcc	900
agattaccat	ctggtttccag	aacggccggg	tcaagagaaa	gaaggttctc	gccaaagtga	960
agaacagcgc	taccccttaa	gagatctccc	tgcctgggtg	ggaggagcga	aagtgggggt	1020
gtcctgggga	gaccaggaa	ctgccaagcc	caggctgggg	ccaaaggactc	tgtctgagag	1080
cccctagaga	caacacctt	cccaggccac	tggctgctgg	actgttcttc	aggagcggcc	1140
tgggtaccca	gtatgtgcag	ggagaaggaa	ccccatgtga	cagcccactc	caccagggtt	1200
ccccagaaac	ctggcccag	catatctact	cctcttgaca	gtggcaataa	tcaagataac	1260
cagtactagc	tgccatgata	gttagcctca	tattttctat	ctagagctct	gtagagcact	1320
ttagaacccg	ctttcatgaa	ttgagcta	tatgaataaa	tttgggaagg	gatccctttg	1380
cagggaagct	ttctctcaga	cccccttcca	ttacacctct	caccttggtg	acagcaggaa	1440
gactgaggag	aggggaacgg	gcagattcgt	tgtgtggctg	tgatgtccgt	ttagcaattt	1500
tctcagctga	cagctgggta	ggtggacaat	tgtagaggct	gtctcttccc	cctccttgtt	1560
ccaccacctc	gggtgtaccc	actggctctg	gaagcaccac	tccttaatac	gacgattctt	1620
ctgtcgtgtg	aaaatgaagc	cagcaggctg	ccccatgtca	gtccttccct	ccagagaaaa	1680
agagatttga	gaaagtgcct	gggtaattca	ccattaattt	cctcccccaa	actctctgag	1740
tcttccctta	atatttctgg	tggttctgac	caaagcagg	catgggttgt	tgagcatttg	1800
ggatcccagt	gaagtagatg	tttgtagcct	tgcatactta	gcccctccca	ggcacaaacg	1860
gagtgggcga	gtggtgccaa	ccctgttttc	ccagtcacag	tagacagatt	ccagtgogg	1920
aattctggaa	gctggagaca	gacgggctct	tgcagagac	gggactctga	gagggacatg	1980
agggcctctg	cctctgtgtt	catctctgtc	tgtcctgtac	ctgggctcag	tgcgggttgg	2040
gaactaatct	ctggccggcg	agcaaaagca	gcgggttcgt	gctgggtcct	cctgcacctt	2100
aggtctgggg	tggggggcct	gcgggcgcct	tctccacgat	tgagcgacaa	ggcctgaagt	2160
ctggacaaac	cgcagaaccc	aagctccggg	cagcgggtog	gtggcgagta	gtggggctgg	2220
tggcgagcag	tgggtgggtg	gccgcggccg	ccactacctc	gaggacattt	ccctcccgga	2280

gccagctctc	ctagaaaccc	cgggcgggcc	gccgcagcca	agtgtttatg	gcccggggtc	2340
gggtgggac	ctagccctgt	ctcctctctc	gggaaggagt	gagggtggga	cgtgacctag	2400
acacctacaa	atctatctac	caaagaggag	cccgggactg	agggaaagag	ccaaagagtg	2460
tgagtgcag	cggactgggg	gttcaggggg	agaggacgag	gaggaggaag	atgaggctga	2520
tttcctgatt	taaaaaatcg	tcraagcccc	gtggccagc	ttagggtcct	cggttacatg	2580
cgccgctcag	agcaggtcac	tttctgcctt	ccacgtcctc	cttcaaggaa	gccccatgtg	2640
ggtagctttc	aatatcgag	gttcttactc	ctctgcctct	ataagctcaa	acccaccaac	2700
gctcgggcaa	gtaaaccccc	tcctctgcgg	acttcggaa	tgccgagagt	tcagcgccga	2760
tgggcctgtg	gggagggggc	aagatagatg	agggggagcg	gcctgggtgc	gggtgacccc	2820
ttggagagag	gaaaaaggcc	acaagagggg	ctgccaccgc	cactaacgga	gatggccttg	2880
gtagagacct	ttgggggtct	ggaacctctg	gactcccat	gctctaactc	ccacactctg	2940
ctatcagaaa	cttaaacctg	aggattctct	ctgtttttca	ctcgcaataa	aytcagagca	3000
aaacaaaaaa	aaacaaaaaa	aaaactcgag				3030

<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

ggcgcccgct	ctagagctag	tgggataccc	cgggctgcac	gaattcggca	cgagtgaagt	60
ggagttttac	ctgtattgtt	tttaatttcaa	caagcctgag	gactagccac	aatgtaccc	120
agtttacaaa	tggaggaaaca	ggtgcacaaa	ggttggttacc	tgtcaagggt	cgtatgtggc	180
agagccaaga	tttgagccca	gttatgtctg	atgaacttag	cctatgtctc	ttaaactctc	240
gaatgctlgac	cattgaggat	atctaaactt	agatcaattg	cattttccct	ccaagactat	300
ttacttatca	atacaataat	accacottta	ccaactctatt	gttttgatac	gagactcaaa	360
catgccagat	atatgtaaaa	gcaacctaca	agctctctaa	tcctgtctac	ctaaaagatt	420
ccccggatct	aatagggtca	aagaaacttc	ttctagaaat	ataaaagaga	aaattggatt	480
atgcaaaaaat	tcattactaa	tttttttcat	ccatctttta	attcagcaaa	catttatctg	540
ttgtctgactt	tatgcagtat	ggccttttaa	ggattcgggg	acagggtgaag	aacgggggtgc	600
cagaatgcac	cttctactca	atgagggtcag	tacacatttg	catttttaaaa	tgcctctgtcc	660
agctggggcat	ggtggatcat	gcctgtaact	tcaacatttg	aaggccaagg	caggaggatt	720
gcttcagccc	aggagttcaa	gaccagcctg	ggcaacatag	aaagacccca	tctctcaatc	780
aatcaatcaa	tgcctctgtc	ttgaaaataa	aactccttaa	gaaaggttta	atgggcaggg	840
tgttggtagct	cctgcttata	atcagcactt	ttgggaggct	gaggccaggag	gactcactta	900
gcccagaagt	tcaagaccag	cctgggcaac	aagtgcacac	tcctctcaat	tttttaataa	960
aatgaataca	tacataagga	aagataaaaa	gaaaagttaa	atgaaagaat	acagtataaa	1020
acaaatctct	tggacctaaa	agtatttttg	ttcaagccaa	atattgtgaa	tcacctctct	1080
gtgttgagga	tacagaatat	ctaagcccag	gaactctgag	agaaagtcca	tgtactaaat	1140
aatcaacccg	aggcaaggga	aaaatgagac	taactaatca	atccgaggca	aggggcaaat	1200
tagacgggaac	ctgactctgg	cttatttaag	gacaacttcc	cctctgttgt	attttctctt	1260
tattcaatgt	aaaaggataa	aaactctctt	aaactaaaaa	caatgtttct	caggagttac	1320
aaaccatgac	caactaakta	tggggaatca	taaaaratga	ctgtatgaga	ctctgatggg	1380
ttacaagtg	tacccactgt	taatcacttt	aaacattaat	gaacttaaaa	atgaatttac	1440
ggagatttga	atgtttctct	cctgttgtat	tagtttggctc	aggctgcoat	aacaaaatac	1500
cacagactgg	gaggcttaag	taacagaaat	tcatttctca	cagttctggg	ggctggaagt	1560
ccatgatcaa	ggtgcaggaa	aggcaggctt	cattctgagg	ccccctctct	ggctcacatg	1620
tggccacccc	ccccctgctt	gctcacatga	cctctttgtg	ctcctggaaa	gagggtgttg	1680
gggacagagg	gaaagagaa	gagaggggaa	ctctcgggtg	ctcgtcttcc	aaggacctta	1740
acctgggcca	ctttggccca	ggcactgtgg	ggtggggggg	tgtggctgct	ctgctctgag	1800
tggccaagat	aaagcaacag	aaaaatgtcc	aaagctgtgc	agcaaaagaca	agccaccgaa	1860
cagggatctg	ctcatcagtg	tggggacccc	caagtcggcc	accctggagg	caagccccc	1920
cagagcccat	gcaagggtgg	agcagcagaa	gaagggaatt	gtccctgtcc	ttggcacatt	1980
cctcacogac	ctgggtgatg	tggacactgc	gatgaatggc	aactgtggatg	agaatatgat	2040
ggactccrag	aaaaggagac	ccagctgtct	aggtggctgc	aatcatttac	agccttcctc	2100
ctggggaggga	actggggggc	tgggtctcgg	tcaagagagca	gcccagtgag	ggtgagagct	2160
acagcctgtc	ctgcccagctg	gatcccccag	ccgggtcaac	cagtaatcaa	ggctgagcag	2220
atcaggcttc	cggagctgg	tcttgggaag	ccagccctgg	ggtaggttgg	ctcctgtctg	2280

ggtactgaga	caatattgtc	ataaattcaa	tgcgccttgc	tatccctttt	tcttttttat	2340
ctgtctacat	ctataatcac	tatgcatact	agtctttgtt	agtgtttcta	ttcmaactta	2400
tagagatatg	ttataact					2417

<210> 335
 <211> 2984
 <212> DNA
 <213> Homo sapien

<400> 335						
atccctcctt	ccccactctc	ctttccagaa	ggcacttggg	gtcttatctg	ttggactctg	60
aaaacacttc	agggcgccct	ccaaggcttc	cccaaacccc	taagcagcog	cagaagcgct	120
cccgagctgc	cttctcccac	actcaggtga	togagcttga	gaggaagtcc	agccatcaga	180
agtaactgtc	ggccccctga	ggggccaccc	tggccaagaa	cctcaagctc	acggagaccc	240
aagtgaagat	atggttcacg	aacagacgct	ataagactaa	gcgaaagcag	ctctcctcgg	300
agctgggaga	cttgggagaag	cactcctctt	tgcgggcccc	gaaagaggag	gccttctccc	360
gggcctccct	ggctctcctg	tataacagct	atccttaact	cccatacctg	tactgcgtgg	420
gcagctggag	ccccagcttt	tggtaatgcc	agctcaggtg	acaaccatta	tgatcassaa	480
ctgccttccc	caggggtgct	ctatgaaaag	cacaaggggc	caaggctcag	gagcaagagg	540
tgtgcacacc	aaagctattg	gagatttgcg	tggaaatctc	aaattcttca	ctggtgagac	600
aatgaaacaa	cagagacagt	gaaagtttta	atacctaagt	cattccccca	gtgcatactg	660
taggctcatt	ctttctgctc	tggctacctg	tttgaagggg	agagagggaa	aatcaagtgg	720
tattttccag	cactttgtat	gattttggat	gagctgtaca	cccaaggatt	ctgttctgca	780
actccatcct	cctgtgtcac	tgaatatcaa	ctctgaaaga	gcacaaacct	caggagaaag	840
gacaaaccag	atgaggatgt	caccaaactga	attaaaacta	agtcacagag	cctcctgttg	900
gccttggaat	atggccaagg	ctctctctgt	ccctgtaaaa	gagaggggca	aatagagagt	960
ctccaagaga	acgcctcat	gctcagcaca	tatttgcatg	ggagggggag	atgggtggga	1020
ggagatgaaa	atatcagctt	ttcttatctc	tttttatctc	ttttaaaatg	gtatgcacac	1080
tttaagtatt	acaggggtgg	ccaaatagaa	caagatgcac	tgcctgtgat	tttaagacaa	1140
gctgtataaa	cagaactcca	ctgcaagagg	gggggcgggg	ccaggagaat	ctcgccttgt	1200
ccaagacagg	ggcctaaggg	gggtctccac	actgctgcta	ggggctgttg	cattttttta	1260
ttagtagaaa	gtggaaaggc	ctcttctcaa	ctttttttcc	ttgggtctgg	gaatttagaa	1320
tcagaagttt	cctggagtct	tcaggctatc	atatatactg	tatcctgaaa	ggcaacataa	1380
ttcttctctc	cctcctttta	aaattttgtg	ttcctttttg	cagcaattac	tcactaaagg	1440
gcttcatttt	agtcacagct	tttagctctg	ctgcacctaa	cctatgcctc	gcttatttag	1500
cccgagatct	ggtctttttt	tttttttttt	tttttccgtc	tcgcccaagc	tttatctgtc	1560
ttgaattttt	aaaaaagttt	gggggcagat	tcctgaattg	ctaasagaca	tgcattttta	1620
aaactagcaa	ctcttatttc	tttcttttaa	aaatacatag	cattaaatcc	caaatcctat	1680
ttaaagacct	gacagcttga	gaaggctcact	actgcattta	taggaacctc	tggtggttct	1740
gctgttaagt	ttgaagtctg	acnatecttg	agaatctttg	cctgcagagg	aggttaaggg	1800
tattggattt	tcacagagga	agaacacagc	gcagaaatga	gggccaagct	tactgagctg	1860
tcagtgagg	ggctcatggg	tgggacatgg	aaaagaaggc	agcctaggcc	ctggggagcc	1920
cagtcacact	agcaagcaag	ggactgagtg	agccttttgc	agggaaaagg	taagaaaaag	1980
gaaaaaccat	ctaaaaacaa	acaagaaact	gtccaaatgc	tttgggaact	gtgttrattg	2040
cctataatgg	gtccccaaaa	tgggtaacct	agacttcaga	gagaatgagc	agagagcaaa	2100
ggagaatact	ggctgtcctt	ccattttcat	tctgttatct	caggtgagct	ggtagagggg	2160
agacattaga	aaaaaaatgaa	acaacaaaac	aattactaat	gaggtacgct	gaggcctggg	2220
agtctcttga	ctccactact	taattccgtt	tagtgagaaa	cctttcaatt	ttcttttatt	2280
agaagggcca	gcttactgtt	ggtggcaaaa	ttgccaaact	aagttaatag	aaagtgggcc	2340
aatttcaccc	cattttctgt	ggtttgggct	ccacattgca	atgttcaatg	ccacgtgctg	2400
ctgacaccga	ccggagtact	agccagcaca	aaaggcaggg	tagcctgaat	tgctttctgc	2460
tctttacatt	tcttttaaaa	taagcattta	gtgctcagtc	cctactgagt	actctttctc	2520
tccctcctc	tgaatttaat	tctttcaact	tgcattttgc	aaggattaca	catttccactg	2580
tgatgtatat	tgtgttgcaa	aaaaaaaaaa	aagtgtcttt	gtttaaaatt	acttggcttg	2640
tgaatccatc	tgtctttttc	cccatgggaa	ctagtcatta	accoatctct	gaactggtag	2700
aaaaacatct	gaagagctag	tctatcagca	tctgacagggt	gaattggatg	gttctcagaa	2760
ccatttcacc	cagacagcct	gtttctatcc	tgtttaaata	attagtttgg	gttctctaca	2820
tgcataacaa	acctgtctcc	aatctgtcac	ataaaagtct	gtgacttgaa	gtttagttag	2880

cacccccacc aaactttatt tttctatgtg ttttttgcaa catatgagtg ttttgaaaat 2940
 aaagtaccca tgtctttatt agaaaaaasa aaaaaaasa aasa 2984

<210> 336
 <211> 147
 <212> PRT
 <213> Homo sapien

<400> 336
 Pro Ser Phe Pro Thr Leu Leu Ser Arg Arg His Leu Gly Ser Tyr Leu
 1 5 10 15
 Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr
 20 25 30
 Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
 35 40 45
 Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
 50 55 60
 Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
 65 70 75 80
 Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
 85 90 95
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
 100 105 110
 Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
 115 120 125
 Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
 130 135 140
 Ala Phe Trp
 145

<210> 337
 <211> 9
 <212> PRT
 <213> Homo sapien

<400> 337
 Ala Leu Thr Gly Phe Thr Phe Ser Ala
 1 5

<210> 338
 <211> 9
 <212> PRT
 <213> Homo sapien

<400> 338
 Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5

<210> 339
 <211> 118
 <212> PRT
 <213> Homo sapien

<400> 339
 Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Pro Phe Leu
 1 5 10 15
 Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val

	20		25		30										
Cys	Thr	Ser	Thr	Val	Gln	Leu	Pro	Gly	Lys	Val	Val	Val	Val	Thr	Gly
	35						40					45			
Ala	Asn	Thr	Gly	Ile	Gly	Lys	Glu	Thr	Ala	Lys	Glu	Leu	Ala	Gln	Arg
	50					55					60				
Gly	Ala	Arg	Val	Tyr	Leu	Ala	Cys	Arg	Asp	Val	Glu	Lys	Gly	Glu	Leu
65					70					75					80
Val	Ala	Lys	Glu	Ile	Gln	Thr	Thr	Thr	Gly	Asn	Gln	Gln	Val	Leu	Val
			85						90					95	
Arg	Lys	Leu	Asp	Leu	Ser	Asp	Thr	Lys	Ser	Ile	Arg	Ala	Phe	Ala	Lys
		100						105					110		
Gly	Phe	Leu	Ala	Glu	Glu	Lys	His	Leu	His	Val	Leu	Ile	Asn	Asn	Ala
	115						120					125			
Gly	Val	Met	Met	Cys	Pro	Tyr	Ser	Lys	Thr	Ala	Asp	Gly	Phe	Glu	Met
	130					135					140				
His	Ile	Gly	Val	Asn	His	Leu	Gly	His	Phe	Leu	Leu	Thr	His	Leu	Leu
145					150					155					160
Leu	Glu	Lys	Leu	Lys	Glu	Ser	Ala	Pro	Ser	Arg	Ile	Val	Asn	Val	Ser
			165					170						175	
Ser	Leu	Ala	His	His	Leu	Gly	Arg	Ile	His	Phe	His	Asn	Leu	Gln	Gly
		180						185					190		
Glu	Lys	Phe	Tyr	Asn	Ala	Gly	Leu	Ala	Tyr	Cys	His	Ser	Lys	Leu	Ala
	195					200						205			
Asn	Ile	Leu	Phe	Thr	Gln	Glu	Leu	Ala	Arg	Arg	Leu	Lys	Gly	Ser	Gly
	210					215					220				
Val	Thr	Thr	Tyr	Ser	Val	His	Pro	Gly	Thr	Val	Gln	Ser	Glu	Leu	Val
225					230					235					240
Arg	His	Ser	Ser	Phe	Met	Arg	Trp	Met	Trp	Trp	Leu	Phe	Ser	Phe	Phe
			245					250						255	
Ile	Lys	Thr	Pro	Gln	Gln	Gly	Ala	Gln	Thr	Ser	Leu	His	Cys	Ala	Leu
	260						265						270		
Thr	Glu	Gly	Leu	Glu	Ile	Leu	Ser	Gly	Asn	His	Phe	Ser	Asp	Cys	His
	275					280						285			
Val	Ala	Trp	Val	Ser	Ala	Gln	Ala	Arg	Asn	Glu	Thr	Ile	Ala	Arg	Arg
	290					295					300				
Leu	Trp	Asp	Val	Ser	Cys	Asp	Leu	Leu	Gly	Leu	Pro	Ile	Asp		
305					310					315					

<210> 340
 <211> 483
 <212> DNA
 <213> Homo sapien

<400> 340	
gcccagggtct gccttcacac ggaggacacg agactgcttc ctcaagggt cctgcctgcc	60
tggacactgg tgggaggcgc tgtttagtgt gctgttttca gagggtctt tccgagggac	120
ctcctgctgc aggcctggagt gtctttattc ctggcgggag accgcacatt ccaactgctga	180
ggttgtgggg ggggtttatc aggcagtgat aaacataaga tgtcatttcc ttgactccgg	240
ccttcaattt tctctttggc tgaogacgga gtccgtggtg tcccgatgta actgacct	300
gctccaaaac tgacatcaet gatgctcttc tccgggggtg tgatggcccg cttgggtcacg	360
tgtcfaatct cgcatttcca ctcttgcctc aaactgtatg aagacacctg actgcacgtt	420
ttttctgggg ttccagaatt taaagtga aaagcagctc ctangctccg actccgatgc	480
ctg	483

<210> 341
 <211> 344
 <212> DNA
 <213> Homo sapien

<400> 341

ctgctgctga	gtcacagatt	tattatataa	tagcctccct	aaggaaaata	cactgaatgc	60
tatttttact	aacattctta	ttttataga	aatagctgag	agttttctaa	ccaactctct	120
gctgccttac	aagtattaaa	tattttactt	ctttccataa	agagttagctc	aaaatatgca	180
attaattttaa	taattttctga	tgatgggttt	atctgcagta	atatgtatat	catctattag	240
aatttactta	atgaaaaact	gaagagaaac	aaattttgtaa	ccactagcac	ttaagtactc	300
ctgattctta	acattgtctt	taatgaccac	aagacaaaca	acag		344

<210> 342

<211> 592

<212> DNA

<213> Homo sapien

<400> 342

acggccaaaa	agaaactgag	aagccccaty	tgctttcttg	ttaacatcca	cttatccaac	60
caatgtggaa	acttcttata	cttggttcca	ttatgaagtt	ggacaattgc	tgctatccca	120
cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ctggcaagac	tttgttgatg	180
accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tcctccagaa	gagtgttaag	aaaagtcaga	gatgtctata	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaagggca	gtcaaatcca	360
tcagcatggg	ctgtttgggtg	caaatgcaaa	agcacaggto	tttttagcat	gctgggtctct	420
cccggtgctt	tatgcaataa	atcgtcttct	tctaaattct	tcctaggctt	cattttccaa	480
agttcttctt	ggttttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttctg	cttagcttga	cgtgagctct	cggctgcccgc	tg	592

<210> 343

<211> 382

<212> DNA

<213> Homo sapien

<400> 343

ttcttgacct	cctctctctt	caagctcaaa	caccacctcc	cttattcagg	accggcactt	60
cttaactgtt	gtggctttct	ctccagctct	tcttaggagg	ggtaatgggtg	gagttggcat	120
cttgtaactc	tcttctctcc	tttcttcccc	ttctctctgc	cgccttctcc	atcctgctgt	180
agacttcttg	attgtcagtc	tggttcacat	ccagtgattg	ttttggtttc	tgttcccttt	240
ctgactgccc	aaggggctca	gaaccccagc	aatccctctc	tttcaactac	ttcttttttg	300
ggggtagttg	gaagggaactg	aaattgtggg	gggaaggtag	gaggccacatc	aataaagagg	360
aaaccaccaa	gctgaaaaaa	aa				382

<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

ctggggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	agtcctgaga	60
caataggcca	cataaacttg	gctggatgga	acctcacaat	aagggtgggtca	cctcttgttt	120
gttttaggggg	atgccaaagg	taaggccagc	tcagttatat	gaagagaagc	agaacaasca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccg	gtcacatcaa	ggtcacactc	240
caccttcagt	ttgcctgaatg	gttgccaggt	cagaaaaatc	cacctcttac	gagtgoggtc	300
tcgaccttat	atcccccgcc	cgcttccctt	tctccataaa	attcttctta	gtagtattta	360
ccttcttatt	atttgatcta	gaaattgccc	tctttttacc	cctaccatga	gccctacaaa	420
caactaaact	gccactaata	gtcatgtcat	cctcttattt	aatcctcacc	ctagccctaa	480
gtctggccta	tgagtgaacta	caaaaaggat	tagactgagc	cgastaacaa	aaaaaa	536

<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

acctttttgag	gtctctctca	ccacctccac	agccacogtc	acogtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgctctctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gcgtgggcca	ggaaatcaca	tcttacctg	cccaggagcc	agacacactt	atggaacaga	180
aaataacata	tccgatttgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346

<211> 282

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(282)

<223> n = A,T,C or G

<400> 346

cgcgctctctg	acactgtgat	catgacaggg	gttcaaacag	aaagtgcctg	ggccctccctt	60
ctaagtctctg	ttaccgaaaa	aaggaaacag	aaaagatctt	ctcagttaca	aattctggga	120
agggagacta	taactggctc	ttgccttaag	tgagaggtct	tccctcccg	acaaaaaat	180
agaaaggott	tctatttcac	cggcccaggt	agggggaagg	agagtaactt	tgagtctgtg	240
ggtctcattt	cccaagggtc	cttcaatgt	catnaaaacc	aa		282

<210> 347

<211> 201

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(201)

<223> n = A,T,C or G

<400> 347

acacacataa	tattatataa	tgccatctaa	ttggaaggag	ctttctatca	ttgcaagtca	60
taaatataac	ttttaaaana	ntactancag	cttttaccta	ngotcctaaa	tgottgtaaa	120
tctggagactg	actggagccc	cccagagccc	gggcaaggat	ccatgttacc	atatactctt	180
tataaagaat	ttttttttgt	c				201

<210> 348

<211> 251

<212> DNA

<213> Homo sapien

<400> 348

ctgttaatca	caacatttgt	gcatacttg	tgccaagtga	gaaaatgttc	taaaatcaca	60
agagagaaca	gtgccagaat	gaaactgacc	ctaagtccca	ggtgcccctg	ggcagggcaga	120
aggagacact	cccagcatgg	aggagggttt	atcttttcat	cctaggtcag	gtctacaaatg	180
gggggaaggt	ttattataga	actcccaaca	gccacctca	ctcctgccc	ccacccgatg	240
gccctgcctc	c					251

<210> 349

<211> 251

<212> DNA

<213> Homo sapien

<400> 349

taaaaaatcaa gccatttaat tgtatctttg aaggtaaaaca atatattggga gctggatcac	60
aacccctgag gatgccagag ctatgggtcc agaacatggg gtggtattat caacagagtt	120
cagaagggtc tgaactctac gtgttaccag agaacataat gcaattcatg cattccactt	180
agcaattttg taaaatacca gaacacagacc ccaagagtct ttcaagatga ggaaaattca	240
actcctgggt t	251

<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

ctggacactt tgcgaggggt tttgctgggt gctgctgctg cccgtcatgc tactcatcgt	60
agcccgcccg gtgaagctcg ctgctttccc tactctctta agtgactgcc aaacgccccac	120
cggttggaat tgetctgggt atgatgacag agaaaatgat ctcttctct ctgacaccaa	180
cacctgtaaa tttgatgggg aatgtttaag aattggagac actgtgactt gcgtctgtca	240
gttcaagtgc aacaaatgact atgtgcctgt gtgtggctcc aatggggaga gctaccagaa	300
tgagtgttac ctgcgacagg ctgcatgcaa acagcagagt gagatacttg tgggtgtcaga	360
aggatcatgt gccacagtc atgaaggctc tggagaaact agtcaaaagg agacatccac	420
ctgtgatatt tgccagtttg gtgcagaatg tgacgaagat gccgaggatg tctggtgtgt	480
gtgtaataat gactgttctc aaaccaactt caatccccctc tgcgtctctg atgggaaatc	540
ttatgataat gcatgccaaa tcaagaagc atcgtgtcag aaacaggaga aaatcgaagt	600
catgtctttg ggtcgatgtc aagataaac aactacaact actaagtctg aagatgggca	660
ttatgcaaga acagattatg cagagaatgc taacaaatta gaagaaagt cagagaaaca	720
ccacataact tgtccggaac attacaatgg cttctgcatg catgggaaat gtgagcattc	780
tateaatatg caggagccat ctctgcagggt tgatgctggg taaactggac aacactgtga	840
aaaaaaggac tacagtgttc tatacgttgt tcccggctct gtacgatttc agtatgtctt	900
aatcgag	908

<210> 351

<211> 472

<212> DNA

<213> Homo sapien

<400> 351

ccagttattt gcaagtggta agagcctatt taccataaat aatactaaga accaactcaa	60
gtcaaacctt aatgccattg ttatttgtga ttaggattaa gtagtaattt tcaaaattca	120
cattaaactg attttaaat cagwtttgyg agtcatttac cacaagctaa atgtgtacac	180
tatgataaaa acaaccattg tattectgtt ttctctaaaca gtccataatt ctaaacctgt	240
atatatcctt cgaatcctat gaacttttgt ttcttttact ccagtaataa agtaggcaca	300
gatctgtcca caaqaactt gacctctcat gacctgctc taccatgct ctgctccagg	360
tcagccccc tttggcctgt ttgttttgtc aaaaacctaa tctgctctt gcttttctg	420
gtaatatata tttaggggaag atgttgcttc gccacacac gaagcaaagt aa	472

<210> 352

<211> 251

<212> DNA

<213> Homo sapien

<400> 352

ctcaaaagcta atctctoggg aatcaaacca gaaaagggca aggatcttag gcatgggtga	60
tgtggataag gccaggtcga tggctgaaag catgcagaga aagaggtaca tgggagcgtg	120
caggctgcgt tccgtcctta cgtatgaagac cagcatgcag ttcccaaca ttgccactac	180
atacatggaa aggaggggga agccaaccca gaaatgggct ttctctaate ctgggatacc	240
aataagcaca a	251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353
 tttttttttt tttttttttt tttttttttaa caatgcagtc atttatttat tgagtatgtg 60
 cacattatgg tattattact atactgatta tattttatcat gtgacttcta attaxaaat 120
 gtatctaaaa gcaaaacagc agatatacaa aattaaagag acagaagata gacattaaac 180
 gataaggcaa ctatatacatt gacaaaccaa atccaataca tttaaacatt tgggaatga 240
 ggggggcaaa tgggaagccar atcaaatatt tgtaaaacta ttcagtatgt ttcccttgc 300
 tcatgtctga raaggctctc ccttcaatgg ggatgacaaa ctccaaatgc caccacaaatg 360
 ttaacagaat actagattca cactggaacg ggggtaaaga agaaattatt ttctataaaa 420
 gggctcctaa tgtagt 436

<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354
 ctttttctag ttcaccagtt ttctgcaagg atgctgggta gggagtgtct gcaggaggag 60
 caagtctgaa accaaatcta ggaaacatag gaaacgagcc aggcacaggg ctgggtggg 120
 atcagggacc accctttggg ttgatatttt gcttaactct catcttttga gtaagatcat 180
 ctggcagtag aagctgttct ccagggtacat ttctctagct catgtacaaa aacatcctga 240
 aggactttgt caggtgcctt gctaaaagcc agatgcgttc ggcacttcc tggctcgagg 300
 ttaattgcac acctacaggg actgggctca tgccttcaag tttttgtcc tcactctagg 360
 gtgagtgaan gatcccccct ataggagcac ttgggagaga tttatataaaa gctgactctt 420
 gagtacatgc agtaatgggg tagatgtgtg tgggtgtgtc tcattcctgc aagggtgctt 480
 gttagggagt gtttccagga ggaacaagtc tgaaccaat catgaaataa atggtaggtg 540
 tgaactggaa aactaattca aaagagagat cgtgatata gctgtggtga tacacctgg 600
 caatatggaa ggtctcaatt tgcctatatt tgaataata attcagcttt ttgtatata 660
 aaataacaaa ggattgagaa tcatgtgtgc caatgtataa aagacccagg aaacataaat 720
 atatcaactg cataaatgta aaatgcctgt gacccaagaa ggcoccaaag tggcagacaa 780
 cattgtaccc atcttccctt ccaaaatgtg agcggcgggc ctgctgcttt caaggctgtc 840
 acacgggagtg ttag 854

<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

<400> 355
 gaaatttaagt atgagctaaa ttcctgttta aaacctctag gggtgacaga tctcttcaac 60
 caggtcaaaag ctgatcttct tggaaatgtca ccaaccaagg gcctataatt atcaaaaagcc 120
 atccacaaat catacctgga tgtcagcgaa gagggcaagg aggcagcagc agccactggg 180
 gacagcatcg ctgtaaaaag cctaccaatg agagctcagt tcaaggcgaa ccacctctc 240
 ctgttcttta taaggcaaac tcataccaac acgatccat tctgtggcaa gcttgcctct 300
 cctaatcag atgggggtga gtaagggtca gagttgcaga tgaagggtcag agacaaatcct 360
 gtgactttcc cagggccaaa aagctgttca cacctcacgc acctctgtgc cttagtttgc 420
 tcatctgcaa aatagggtcta ggatttcttc caaccatttc atgagttgtg aagctaaggc 480
 tttgttaate atggaaaag gtagacttat gcagaaagcc tttctggctt tcttatctgt 540
 ggtgtctcat ttaggtgtg tccagtgaca tgatcaagtc aatgagtaaa attttaaggg 600
 attagatttt cttagattgt atgtatctgt gagatcttga atcaagtgaac tgacatctct 660
 gcttaagaa aaccag 676

<210> 356

<211> 574
 <212> DNA
 <213> Homo sapien

<400> 356

tttttttttt	tttttcaggga	aaacattctc	ttactttatt	tgcctctcag	caaagggtct	60
catgtggcac	ctgactggca	ccaaaccaaa	gttcgtaggc	caacaaagat	gggcccactca	120
caagcttccc	atctttagat	ctcagtgcc	atgagtatct	gacacctgtt	ccctctcttca	180
gtctcttagg	gaggcttaaa	tctgtctcag	gtgtgctaag	agtgcacagc	caaggkggtc	240
aaaagttccac	aaaactgcag	tctttgctgg	gatagtaagc	caagcagtg	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aactcgtgct	ttattcaaca	360
ttcttctgtc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtggc	acaggggaagg	420
agatacaagc	tctgtttacat	gtgatagatc	taacaaaggc	atctacogaa	gtctgggtctg	480
gatagacggc	acagggagct	cttaggtcag	cgctgctgg	tggaggacat	tcctgagtc	540
agctttgcag	ctttctgtga	acagtaactt	cccc			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 357

tttttttttt	tttttttttt	tttttttttt	tacagaatat	arctgcttta	tcactgkact	60
taatatggkg	kcttgctccac	tatacttaaa	aatgcaccac	tcataaatat	ttaatccagc	120
agccacaac	caaracttga	ttttatcaac	aaaaacccct	aaatataaac	ggaaaaaag	180
atagatataa	ttattccagt	ttttttaaaa	cttaaaarat	attccattgc	cgaatttaara	240
araarataag	tgttatatgg	aaagaagggc	attcaagcac	actaaaraaa	cctgaggkaa	300
gcataatctg	tacaaaatta	aactgtcctt	cttggcattt	taacaaattt	gcaacgktct	360
cttttttttt	ttttctgttt	ctttcttttt	tac			393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358

acaggggtaaa	caggaggatc	cttgcctctc	cggagcttao	attctagcag	gaggacaata	60
ttaatgttta	tagganaatg	atgagtttat	gacaaaggga	gtagatagtg	ttttacaaga	120
gcataagatg	gggaagctaa	tcragcacag	ggaggtcaca	gagacatccc	taagggaagt	180
gagtttaaac	tgaagagaag	aagtgcctaa	actgaaggat	gtgttgaaga	agaaggsgaga	240
gtagaacaat	ctgggcagag	ggaaacctat	agaccttaag	gtgggaagg	tcnaagaaat	300
gaaagagagc	tagaacagct	ggagccgttc	tcgggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gatcttgggt	gcattcaggg	attggcactt	ctacaagaaa	420
tcactgaagg	gagtaactgt	acattacttt	tcacttcagg	atggccattc	taactocagg	480
gggtagactg	gactaggtaa	gactggaggc	aggtagaact	cttctcaggc	ctgcgatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggtatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttcctccac	aacaaccagt				630

<210> 359
 <211> 620
 <212> DNA
 <213> Homo sapien

<400> 359

acagcattccc	aaaatatata	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
taatttaaaaa	atgctactaa	tctagaaat	ttataatcag	aaaaataaat	attcagggag	120
ctcaccagaa	gactaaagt	ctctgcragt	tattaaagga	ttactgctgg	tgaatttaaat	180
atggcattccc	ccaaggga	tagagagatt	cttctggatt	atgttcaata	ttatttccac	240

aggattaaact	gttttaggaa	cagatataaa	gcttcgccac	ggaagagatg	gacaaagcac	300
aaagacaaaca	tgatacetta	ggaagcaaca	ctaccctttc	aggcataaaa	tttgagagaaa	360
tgcaacatta	tgcttcatga	ataatatgta	gaaagaaggt	ctgatgaaaa	tgacatcctt	420
aatgtaagat	aactttataa	gaattcttgg	tcaataaaaa	ttctttgaag	aaaacatcca	480
aatgtcattg	acttatcaaa	tactatcttg	gcataatacc	tatgaaggca	aaactaaaca	540
aacaaaaagc	tcacacaaaa	caaaaccatc	aattkatttt	gtattctata	acatacagag	600
ctgtaaagat	gtgacagtgt					620

<210> 360
 <211> 431
 <212> DNA
 <213> Homo sapien

aaaaaaaaaa	agccagaaca	acatgtgata	gataatatga	ttggctgcac	acttcacgac	60
tgatgaatga	tgaaagtgat	ggactattgt	atggagcaca	tcttcagcaa	gagggggaaa	120
tactcatcat	tittggccag	cagttgtttg	atcaccaaac	atcatgccag	aatactcagc	180
aaacottctt	agctcttgag	aagtcaaaag	ccgggggaat	ctattccttg	caattttaat	240
tggaactcct	atgtgagagc	agcggctacc	cagctggggt	ggtggagcga	accggtcact	300
agtggacatg	cagtggcaga	gtctctggtg	accacctaga	ggaatacaca	ggcaratgtg	360
tgatgccaag	ogtgacaact	gtagcactca	aatttgtott	gtttttgtct	ttcgggtgtg	420
agattcttag	t					431

<210> 361
 <211> 351
 <212> DNA
 <213> Homo sapien

aacctgattt	ccgatacaaa	gaatcatcat	ctttaccttg	acttttcagg	gaattactga	60
actttcttct	cagaagatag	ggcacagcca	ttgccttggt	ctcaactgaa	gggtctgcat	120
ttgggtctct	tggtctcttg	ccaagtttcc	cagccactcg	agggagaaat	atogggaggt	180
ttgacttctt	ccggggcttt	cccgagggtc	tcaccgtgag	ccctgaggcc	ctcagggtct	240
caatcctgga	ttcaatgtct	gaacacctgc	tctctgcttg	ctggacttct	gagggcgtca	300
ctgccactct	gtctctcagc	tctgacagct	ctcactctgt	ggtcctgttg	t	351

<210> 362
 <211> 463
 <212> DNA
 <213> Homo sapien

acttcacag	gccataatgg	gtgcctcccg	tgagaatcca	agcacctttg	gactgagcga	60
tgtagatgag	ccggctgaag	atottgcgca	tgcgcggtt	cagggcgaag	ttcttggcgc	120
ccccggctac	agaaatgacc	aggcttgggt	ttttcagggt	ccagtgcctg	gtcagcagct	180
cgtaaaggat	ttccggttcc	gtgtcgccag	acgacgtat	atacttccct	ttcttcccca	240
gtgtctcaaa	ctgaatater	ccaaaggcgt	cggtaggaaa	ttccttgggt	tgtttcttgt	300
agttccattt	ctcaactttg	ttgatctggg	tgcttccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattcttc	ctgataagca	ogatggtgtg	gacaggaagg	aaggatttca	420
ttgagcctgc	ttatggaaac	tggtattgtt	agcttaata	gac		463

<210> 363
 <211> 653
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(653)

<223> n = A,T,C or G

<400> 363

acccccgagt	noctgnetgg	catactgnga	acgacccaag	acacacccaa	gtcgggcttc	60
ctcttggnga	ttctgggtga	catcttcacg	aattggcaacc	gtgccagwga	ggctgtcttc	120
tgggaggcac	tacgcaagat	gggactgcgt	cctgggggtga	gacatcctct	ccttggagat	180
ctaacgaaac	ttctcaccta	tgagttgtaa	agcagaaata	cctgnactac	agacgagtgc	240
ccaacagcaa	ccccccggaa	gtatgagttc	ctcttggggc	tcggttccta	ccatgagaac	300
tagcaagatg	naagtgttga	gantcattgc	agagggttcag	aaaagagacc	enttgtgact	360
ggctctgcac	gttcatggag	gctgcagatg	agcccttggg	tgctctggat	gctgctgcag	420
ctgaggccga	agccccgggt	gaagcaagaa	cccgratggg	aattggagat	gaggctgtgt	480
ntggggccctg	gagctgggat	gacattgagt	ttgagctgct	gacctgggat	gaggaaggag	540
atcttggaga	tccntgggtc	agaattccat	ttaccttctg	ggccagatac	caccagaatg	600
ccgctccag	attccctcag	acctttggcg	gtcccatat	tggtctgggt	ggc	653

<210> 364

<211> 401

<212> DNA

<213> Homo sapien

<400> 364

actagaggga	agacgtttaa	ccactctact	accacttgtg	gaactctcaa	agggtaaatg	60
acaaagccaa	tgaatgactc	taaaaacaat	atctacattt	aattggttgt	agacaataaa	120
aaaacaagggt	ggatagatct	agaattgtaa	catctttaa	aaaacatagc	atttgacaga	180
tgagaaagct	caattataga	tgcaagttta	taactaaact	actatagtag	taagaaata	240
catctcacac	cttcatata	aattcactat	cttggcttga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaatcttta	tatttgcctat	ggcgttgcac	tagaggactt	ggactgcaac	360
aagtggatgc	ggggaanaatg	aaatcttctt	caatagccca	g		401

<210> 365

<211> 356

<212> DNA

<213> Homo sapien

<400> 365

ccagtgtcat	atttgggctt	aaaatttcaa	gaagggcact	tcaaatggct	ttgcatttgc	60
atgtttcagt	gctagagcgt	aggaatagac	crtggcgctc	actgtgagat	gttcttcagc	120
taccagagca	tcaagtctct	gcagcaggct	attcttgggt	aaagaaatga	cttccacaaa	180
ctctccatcc	cctggccttg	gcttcggcct	tgcttcttcg	gcacatcttc	cgtaaatggt	240
gactgtcagc	atgtgtatag	tacagtttga	caagcctggg	tccatacaga	ccgctggaga	300
acattoggca	atgtcccttt	tgtagccagt	ttcttcttcg	agctcccgga	gagcag	356

<210> 366

<211> 1851

<212> DNA

<213> Homo sapien

<400> 366

tcatcaccat	tgcacagcgc	ggcaccgtta	gtcagggttt	ctgggaatcc	ccatgagta	60
ctccgggtgt	cttcattctt	cttcaatagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcaattccct	taagcctttg	tgaactcttc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgtgtttt	cagaagagat	ttttaacatc	tgtttttctt	tgtagtcaga	aagtaactgg	240
caattacat	gatgatgact	agaaacagca	tactctctgg	ccgtcttctc	agatcttgag	300
aagatacatc	aacatcttgc	tcaagttagg	ggctgactat	acttgcctgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatate	tatccagcgc	atttaaatte	gctttttctt	420
tgattaaaaa	tttccaccat	tgcgtttttt	gtccatgtat	accaagtagc	agtgggtgtga	480
ggccatgctt	gtttttttgat	tcatatcag	caccgtataa	gagcagtgct	ttggccatta	540

atttatcttc	attgtagaca	gcatagtgta	gagtggtatt	tccatactca	tctggaatat	600
ttggateagt	gccatgttcc	agcaacatta	acgcacattc	atcttccctgg	cattgtacgg	660
cccttgtcag	agetgtctcc	ttcttgttgt	caaggacatt	aagtcgacat	cgtctgtcca	720
gcacgagttt	tactactttt	gaattcccat	tggcagaggg	cagatgtaga	gcagtcctct	780
tttgcctgtc	cctcttgttc	acatccgtgt	ccctgagcat	gacgatgaga	tcctttctgg	840
ggactttacc	ccaccaggca	gctctgtgga	gcttgtccag	atcttctcca	tggacgtggt	900
acctgggata	catgaaggcg	ctgtcatcgt	agtctcccca	agcgaccacg	ctgtctctgc	960
cgtccccctg	caggcagggg	aggagtgga	gcacccattg	caactcttgc	tcccgaagcg	1020
cttcacagag	gagtcgttgt	ggctctccga	agtgcacca	ttgtctctgc	cgtccccct	1080
gtccatccag	ggagggaagaa	atgcaggaaa	tgaagatgc	atgcaogatg	gtatactcct	1140
cagccatcaa	actctcggac	agcagggtcc	ttccagcaag	gtggagaaag	ctgtccaccc	1200
acagaggatg	agatccagaa	accacaatat	ccattccaaa	acaaacactt	ttcagccaga	1260
cacaggtaact	gaaatcatgt	catctgcggc	aacatggctg	aacctaccga	atcacacatc	1320
aagagatgaa	gacactgcag	tatatctgca	caacgtaata	ctcttcaccc	ataacaaaat	1380
aataataatt	tccctctggag	ccatatggat	gaaatatgaa	ggaagaactc	cccgaagaag	1440
ccagtcgcag	agaagccacc	ctggaactct	gtccctcagc	atcagcgcca	cggacaggag	1500
tgtgtttctt	ccccagtgat	gcagccctca	gttatcccg	agctgcgcga	gcacacgggt	1560
gctccctgaga	aacaccccag	ctcttccggt	ctaaccacag	caagtcaata	aatgtgataa	1620
tcacataaac	agaattaaaa	gcaaagtcac	ataagcatct	caacagacac	agaaaaggca	1680
tttgacaaaa	tccagcctcc	ttgtatttat	tgttgcaagt	ctcagaggaa	atgcttctaa	1740
cttttcccca	tttagtatta	tgttggctgt	gggcttgtra	tagggtggtt	ttattacttt	1800
aaggtatgtc	ccttctatgc	ctgttttgc	gagggtttta	attctcgtgc	c	1851

<210> 367

<211> 668

<212> DNA

<213> Homo sapien

<400> 367

cttgagcttc	caaataygga	agactggccc	ctacacaggt	caatgttaaa	atgaatgcac	60
ttcagtatct	tgaagataaa	atrrgtogat	ctatcccttg	ttctttgatt	cgatatcagc	120
accrtataag	agcagtgcct	tggccattaa	ttatctcttc	atrrtagaca	gcrtagtgya	180
gagtggtatt	tccatactca	tctggaatat	ttggatcagt	gccatgttcc	agcaacatta	240
acgcacattc	atcttccctgg	cattgtacgg	ccgtgcagta	ttagacccaa	aaacaaatta	300
catactcttag	gaattcraaa	tsacattcca	cagctttcac	caactagtta	tatttaaagg	360
agaaaactca	tttttatgcc	atgtattgaa	atcaaaccca	cctcatgctg	atatagttgg	420
ctactgcata	cctttatcag	agctgtccct	ttttgttgt	caaggacatt	aagttgacat	480
cgtctgtcca	gcaggagttt	tactacttct	gaattcccat	tggcagaggg	cagatgtaga	540
gcagtcctat	gagagtgcga	agacttttka	ggaaattgta	gtgcactagc	tacagccata	600
gcaatgatcc	atgtaactgc	aaacactgaa	tagcctgcta	ttactctgcc	ttcaaaaaaa	660
aaaaaana						668

<210> 368

<211> 1512

<212> DNA

<213> Homo sapien

<400> 368

gggtcgccca	ggggggcggt	gggctttcct	cggggtgggtg	tgggttttcc	ctgggtgggg	60
tgggctgggc	trgaatcccc	tgotgggggt	ggcaggtttt	ggctggggatt	gacttttytc	120
ttcaaacaga	ttggaaaccc	ggagttacct	gctagtgggt	gaaactgggt	ggtagacggc	180
atctgttggc	tactactggc	ttctcctggc	tgttaaaagc	agatgggtgg	tgaggttgat	240
tccatgcggg	ctgctctctc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tgggtgctgc	gttgcctccc	ctgctgcagg	gagagcgcca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatggggca	gtgggtgcgc	420
cactgcttcc	cctgtcgcag	ggggagtggt	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgactctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcgc	caaggagcaag	gtggggcgctt	ggggagacta	cgatgacagt	600

```

geettcatgg agccaggtt ccacgtccgt ggagaagatc tggacaagct ccacagagct 660
geettggtggg gtaaaagccc cagaaaaggat cccatcgtca tgcacagggg cactgaogtg 720
aacaagaagg acaagcaaaa gaggaactgt ctacatctgg cctctgccaa tgggaattca 780
gaagtagtaa aaactctgtt ggacagacga tgtcaactta atgtccttga caacaaaaag 840
aggacagctc tgayaaaggc ogtacaatgc caggaagatg aatgtgogtt aatgttgctg 900
gaacatggca ctgatccaaa tattccagat gagtatggaa ataccactct rcactaygtt 960
rtctayaatg aagataaatt aatggccaaa gcactgctct tatayggtgc tgatatcgaa 1020
ccaaaaaaca aggtatagat ctactaattt tatcttcaaa atactgaatt gaattcattt 1080
taacattgac gtgtgtaagg gccagtcttc cgtatttggg agctcaagca taacttgaat 1140
gaaatatatt tgaatgacc taattatctm agactttatt ttaaataatt ttattttcaa 1200
agaagcatta gagggtagag tttttttttt ttaaataaac ttctggtaaa tacttttgtt 1260
gaaaacactg aatttgtaaa aggtaatact tactattttt caatttttcc ctcttaggat 1320
ttttttcccc taatgaatgt aagatggcaa aatttgccct gaaataggtt ttacatgaaa 1380
actccaagaa aagttaaaaca tgtttcagtg aatagagatc ctgtcctttt ggcaagttcc 1440
taaaaaacag taatagatac gaggtgatgc gcctgtcagt ggcaaggttt aagatatattc 1500
tgatctctg cc
1512

```

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

```

gggtcgccca gggggggcgt gggtcttccct cgggtgggtg tgggttttcc ctgggtgggg 60
tgggtcgggc trgaatcccc tgcctggggtt ggcaggtttt ggctgggatt gacttttytc 120
ttcaaacaga ttggaaaccc ggagttacct gctagtgtgt gaaactggtt ggtagacgcg 180
atctgttggc tactactgyc ttctccctggc tgttaaaagc agatgggtgt tgaggttgat 240
tccatgcagg ctgtctcttc tgtgaagaag ccatttgggt tcaggagcaa gatgggcaag 300
tgggtgctgc gttgcttccc ctgtgtcagg gagagcggca agagcaacgt gggcacttct 360
ggagaccaag acgactctgc tatgaagaca ctcaggagca agatgggtcaa gtgtgocgc 420
caetgcttcc cctgtctcag ggggagtggt aagagcaacg tgggcgcttc tggagaccac 480
gacgagtctg ctatgaagac actcaggaac agtatgggca agtgggtgtg ccactgcttc 540
ccctgctgca gggggagorg caagagcaag gtgggogctt ggggagacta cgtagacagy 600
geettcatgg akccaggtt ccacgtccrt ggagaagatc tggacaagct ccacagagct 660
geettggtggg gtaaaagccc cagaaaaggat ctcatcgtca tgcacagggg cackgaygtg 720
aacaagargg acaagcaaaa gaggaactgt ctacatctgg cctctgccaa tgggaattca 780
gaagtagtaa aactctgtct ggacagacga tgtcaactta atgtccttga caacaaaaag 840
aggacagctc tgayaaaggc ogtacaatgc caggaagatg aatgtgogtt aatgttgctg 900
gaacatggca ctgatccaaa tattccagat gagtatggaa ataccactct rcactaygtt 960
rtctayaatg aagataaatt aatggccaaa gcactgctct tatayggtgc tgatatcgaa 1020
tcaaaaaaca agcatggcct cacaccactg ytacttggtr taratgagca aaaaacagcaa 1080
gtgtggaat ttttaatyaa gaaaaaagcg aatttaaaat gcrcctggat gatattggaag 1140
ractgctctc atacttctgt tatgttgttg atcagcaagt atagtacgcc ytctacttga 1200
gcaaaatrtt gatgtatctt ctcaagatct ggaagacgg ccagagagta tgctgtttct 1260
agtcatctc atgtaatttg ccagttactt ctgactaca agaaaaaca gatgttaaaa 1320
atctctctg aaaaacagca tccagaacca gacttaagc tgacatcaga ggaagagtc 1380
caaaaggctt aagggaagtg aaacagccag ccagggcct ggaaactttt aaatttaaac 1440
ttttggttta atgttttttt tttttgctt aataatatta gatagtccca aatgaaatwa 1500
cctatgagac taggttttga gaatcaatag attctttttt taagaatctt ttggctagga 1560
gcgggtgtct acgcctgtaa ttccagcacc ttgagaggct gaggtgggca gatcaogaga 1620
tcaggagatc gagaoccatc tggctaacac ggtgaaaccc catctctact aaaaatacaa 1680
aaacttagct ggggtgtgtg gcgggtgcct gtagtcccag ctactcagga rgctgaggca 1740
ggagaatggc atgaacccgg gaggtggagg ttgcagttag ccgagatccg ccactacact 1800
ccagcctggg tgacagagca agactctgtc tcaaaaaaaa aaaaaaaaaa aa 1853

```

<210> 370

<211> 2184

<212> DNA

<213> Homo sapien

<400> 370

ggcagcagaa	ttaaaaccct	cagcaaaaca	ggcatagaag	ggacatacct	taaagtaata	60
aaaacacact	atgacaagcc	cacagccaac	ataatactaa	atggggaaaa	gttagaagca	120
tttctctcga	gaactgcac	aataaataca	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgotta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccgggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
ctggggcage	ttcgggataa	cttgaggctg	catcaactgg	gaagaaacac	aytccctgtc	360
gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttcttcgg	420
ggagttcttc	cttcatagtt	catccatatt	gctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcatctct	tgatgtgtga	540
ttgggtagggt	tcacccatgt	tgcgcagagt	gacatgattt	cagtacctgt	gtctggctga	600
aaagtgtttg	tttgtgaatg	gatatttgtg	cttctggatc	tcacctctct	tgggtggaca	660
gctttctcca	ccttgcctga	agtgcacctg	tgtccagaag	tttgatggct	gaggagtata	720
ccatcgtgca	tgcattcttc	atttccctga	tttcttctct	cctggatgga	cagggggagc	780
ggcaagagca	acgtgggcac	ttctggagag	cacaacgact	cctctgtgaa	cctccttggg	840
agcaagaggt	gcaagtgggt	ctgccactgc	ttccctgtct	gcaggggagc	ggcaagagca	900
acgtggctgc	ttggggagac	tacgatgaca	gogccttcat	gcatcccagg	taccacgtcc	960
atggagaaga	tctggacaag	ctccacagag	ctgcctgggt	gggtaaagtc	cccagaaagg	1020
atctcatcgt	catgctcagg	gacacgggat	tgaacaaag	ggacaagcaa	aagaggactg	1080
ctctacatct	ggcctctgcc	aatgggaatt	cagaagtagt	aaaactcctg	ctggacagac	1140
gatgtcaact	taatgtctct	gacaacaaaa	agaggacagc	tctgacaaag	gcgtacaact	1200
gccaggaaga	tgaatgtgct	ttaatgttgc	tggaaacatg	cactgatcca	aattattccag	1260
atgagtatgg	aaataccact	ctacactatg	ctgtctacaa	tgaagataaa	ttaatggcca	1320
aagcaactgt	cttatacggt	gctgatatcg	aatcaaaaaa	caagcatggc	ctcacaccac	1380
tgtactctgg	tatacatgag	caaaaaacag	aagtgggtga	atttttaatc	aagaaaaaag	1440
cgaattttaa	tgcgctggat	agatatggaa	gaactgctct	catacttgc	gtatgttctg	1500
gatcagcaag	tatagtcagc	cctctacttg	agcaaaatgt	tgatgtatct	tctcaagatc	1560
tggaaagacg	gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	1620
ttctgactac	aaagaaaaac	agatgtttaa	aatctcttct	gaaacagca	atccagaaca	1680
agacttaaa	ctgacatcag	aggaagagtc	acaaaggctt	aaagggaagt	aaaacagcca	1740
gccagaggga	tggaaaacttt	taaattttaa	cttttggttt	aatgtttttt	ttttctgoot	1800
taataatatt	agatagtccc	aaatgaaatw	acctatgaga	ctaggctttg	agaatcaata	1860
gattcttttt	ttaaagaatct	tttggctagg	agcgggtgtc	cccgctgtga	attccagcac	1920
cttgagaggc	tgaggtgggc	agatcacgag	atcaggagat	cgagaccatc	ctggctaaca	1980
cgggtgaaac	ccatctctac	taaaaataca	aaaacttagc	tgggtgtggt	ggcgggtgct	2040
tgtagtccca	gctactcagg	argctgaggc	aggagaatgg	catgaacccg	ggaggtggag	2100
gttgacgtga	gccagagatc	gccactacac	tccagcctgg	gtgacagagc	aagactctgt	2160
ctcaaaaaaa	aaaaaaaaaa	aaaa				2184

<210> 371

<211> 1855

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1855)

<223> n = A,T,C or G

<400> 371

tgcacgcate	ggccagtgtc	tgtgccacgt	acactgacgc	ccoctgagat	gtgcacgccc	60
caocgcgcag	ttgcacgcgc	ggcagcggct	tggctggctt	gtaacggctt	gcacgcgcac	120
gcgcgcgcgc	cataacgcgc	agactggcct	gtaacggctt	gcaggcgcac	gcgcgcgcgc	180
cgtaacggct	tggctgcctt	gtaacggctt	gcacgtgcac	gctgcacgcg	cgttaacggc	240
tggctggca	tgtagcgcct	tggctggctt	ttgcattytt	tgtckggctk	ggcgttgkty	300
tcttggattg	acgcttcttc	cttggatkgc	cgtttctctc	ttggatkgac	gtttctytyt	360

tgcggttcc	ttgctggact	tgacctttty	tctgctgggt	ttggcattcc	tttgggggtgg	420
gctgggtgtt	ttctccgggg	gggkttgccc	ttcctggggg	gggogtgggk	cgccccagg	460
gggctgggg	tttccccggg	tggtgtggg	tttctctggg	gtgggtggg	ctgtgctggg	540
atccccctgc	tggtgtggg	gggtattgac	tttttctctc	aaacagattg	gaaacccggg	600
gtaacntgct	agttgggtgaa	actgggtggg	agacgcgac	tgctgggtact	actgtttctc	660
ctggctgtta	aaagcagatg	gtggctgagg	ttgattcaat	gocggctgct	tcttctgtga	720
agaagccatt	tgggtctcagg	agcaagatgg	gcaagtgggtg	cgccactgct	tccctgtctg	780
caggggggagc	ggcaagagca	acgtgggca	ttctggagac	cacaaacgact	cctctgtgaa	840
gaogcttggg	agcaagaggt	gcaagtgggtg	ctggccactg	cttccccctgc	tgagggggag	900
cggcaagagc	aacgtggkcg	cttgggggaga	ctacgatgac	agcgcttca	tggaacccag	960
gtaccacgtc	crtgggagaag	atctgggacaa	gctccacaga	gctgocctgg	ggggtaaagt	1020
ccccagaaag	gatctcatcg	tcatgtctcag	ggacactgag	gtgaacacaga	rggacaagca	1080
aaagaggact	gctctacatc	tggtctctgc	caatgggaat	tcaagaagtga	taaaaactcgt	1140
gctggacaga	cgatgtcaac	ttaatgtcct	tgacaacaaa	aagaggacag	ctctgacaaa	1200
ggcgtacaa	tgccaggaag	atgaatgtgc	gttaatgttg	ctggaacatg	gcactgatcc	1260
aatattcca	gatgagtatg	gaaataccac	tctacactat	gctgtctaca	atgaagataa	1320
attaattggc	aaagcactgc	tcttatcagg	tgctgatata	gaatcaaaaa	acaaaggtata	1380
gactacttaa	ttttatcttc	aaaatactga	aatgcattca	ttttaacatt	gacgtgtgta	1440
agggccagtc	ttccgtattt	ggaaagctcaa	gcataacttg	aatgaaaata	ttttgaaatg	1500
acctaatatt	ctaagacttt	atcttaataa	ttgttatatt	caaagaagca	tttagaggta	1560
cagttttttt	tttttaaatg	caactctggg	aaatactttt	gttgaaaaca	ctgaatttgt	1620
aaaaggtaat	acttactatt	tttcaatttt	tccctctctag	gatttttttc	ccctaattgaa	1680
tgtagatgg	caaaattttg	cctgaaatag	gttttccatg	aaaactccaa	gaaaagttaa	1740
acatgtttca	gtgaatagag	atcctgctcc	tttggcaagt	tcctaataaaa	cagtaataga	1800
tacggggtga	tggtgctgtc	agtggcaagg	tttaagatat	ttctgatctc	gtgac	1855

<210> 372

<211> 1059

<212> DNA

<213> Homo sapien

<400> 372

gcaacgtggg	cacttcttga	gaccacaacg	actcctctgt	gaagacgctt	gggagcaaga	60
ggtgcaagtg	gtgctgcccc	ctgcttcccc	tgctgcaggg	gagcgggcaag	agcaacgtgg	120
gcgcttggg	agactmogat	gacagygcct	tcatggagcc	caggtaccac	gtcgtggag	180
aagatctgga	caagctccac	agagctgccc	tggtggggta	aagtcgccag	aaaggatctc	240
atcgtcatgc	tcagggacac	tgaygtgaac	aagarggaca	agcaaaagag	gactgctcta	300
catctggcct	ctggccaatgg	gaattcagaa	gtagtataac	tcatgctgga	cagaogatgt	360
caacttaatg	tccttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgcttgaat	gttgcctgga	catggcactg	atccaaatat	tcagatgag	480
tatggaata	caactctcca	ctaygctrtc	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttat	ayggctgctga	tatcgaatca	aaaaacaagg	tatagatcta	ctaattttat	600
cttcaaaata	ctgaaatgca	ttcattttta	cattgaagtg	tgtaaggggcc	agtcttccgt	660
atttgggaagc	tcaagcctaa	cttgaatgaa	aataattttga	aatgacctaa	ttatctaaga	720
ctttattttta	aataattgta	ttttcaaaga	agcatttagag	ggtacagttt	ttttttttta	780
aatgcacttc	tggtaaatatc	tttctgtgaa	aacactgaat	ttgtaaaagg	taatacttac	840
tattttttcaa	tttttccccctc	ctaggatctt	tttccccctaa	tgaatgtaag	atggcaaaat	900
ttgccctgaa	ataggttttta	catgaaact	craagaaaag	ttaaacctgt	ttcagtgaa	960
agagatcctg	ctccttttggc	aagttcctaa	aaaacagtaa	tagatacagag	gtgatgcgcc	1020
tgtcagtggc	aaggttttaag	atatctctga	tctcgtgcc			1059

<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

atggtgggtg	aggttgattc	catgcogget	gcctcttctg	tgaagaagcc	atttgggtctc	60
------------	------------	------------	------------	------------	-------------	----

aggagcaaga	tgggcaagtg	gtgctgcegt	tgttccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttctgg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgcgcgca	ctgcttcccc	tgtgcagggg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcagggaaca	gatgggcaag	300
tgggtgctgoc	actgcttccc	ctgctgcagg	gggagcggca	agagcaagggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	ccagggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaaca	ctgaagtgaa	caagaaggac	aagcaaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgogttaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	ctatcgaaatc	aaaaaacaaag	catggcctca	caccactgtt	acttgggtgta	840
catgagcaaa	aacagcaagt	cgtgaaattt	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgtctccta	cttgcctgat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	tgtctcaaga	1140
accagaaata	ataaa					1155

<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

atggttgggtg	agggttgate	catgcoggtc	gcctcttctg	tgaagaagcc	atttgggtctc	60
aggagcaaga	tgggcaagtg	gtgctgcegt	tgttccct	gctgcaggga	gagcggcaag	120
agcaacgtgg	gcacttctgg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
atgggcaagt	ggtgcgcgca	ctgcttcccc	tgtgcagggg	ggagtggcaa	gagcaacgtg	240
ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcagggaaca	gatgggcaag	300
tgggtgctgoc	actgcttccc	ctgctgcagg	gggagcggca	agagcaagggt	gggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	ccagggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctgggtgggt	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaaca	ctgaagtgaa	caagaaggac	aagcaaaaaga	ggactgctct	acatctggcc	540
tctgccaatg	ggaattcaga	agtagtaaaa	ctcctgctgg	acagacgatg	tcaacttaat	600
gtccttgaca	acaaaaagag	gacagctctg	ataaaggccg	tacaatgcca	ggaagatgaa	660
tgtgogttaa	tgttgctgga	acatggcact	gatccaaata	ttccagatga	gtatggaaat	720
accactctgc	actacgctat	ctataatgaa	gataaattaa	tggccaaagc	actgctctta	780
tatggtgctg	ctatcgaaatc	aaaaaacaaag	catggcctca	caccactgtt	acttgggtgta	840
catgagcaaa	aacagcaagt	ogtgaatttt	ttaatcaaga	aaaaagcgaa	tttaaatgca	900
ctggatagat	atggaaggac	tgtctccta	cttgcctgat	gttgtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
aaagaaaaac	agatgctaaa	aatctcttct	gaaaacagca	atccagaaaa	agacttaag	1140
ctgacatcag	aggaagagtc	acaaagggtc	aaaggcagtg	aaaatagcca	gccagagaaa	1200
atgtotcaag	aaccagaaat	aaataaggat	ggtgatagag	agggtgaaga	agaaatgaag	1260
aagcatgaaa	ggaattactg	gggattacta	gaaacactga	ctaattggtgt	cactgctggc	1320
aatgggtgata	atggattaat	tcttcaagg	aagagcagaa	cacctgaaaa	tcagcaattt	1380
cctgacaaag	aaagtgaaga	gtatcacaga	atttgcgaat	tagtttctga	ctacaaagaa	1440
aaacagatgc	caaaatactc	ttctgaaaa	agcaarccag	aacaagactt	aaagctgaca	1500
tcagaggaag	agtcacaaa	gcttgagggc	agtgaanaat	gccagccaga	gctagaaaaat	1560
tttatggcta	togaagaaat	gaagaagcac	ggaagtactc	atgtoggatt	cccagaaaa	1620
ctgactaatg	gtgccaactgc	tggcaatgggt	gatgatggat	taattccctcc	aagggaagagc	1680
agaacacctg	aaagccagca	atttcttgac	actggaatg	aagagtatca	caagtgaagaa	1740
caaatgata	ctcagaagca	atttctgtaa	gaacgaaca	ctggaatat	acacgtgag	1800
attctgattc	atgaagaaaa	gcagatagaa	gtgggtgaaa	aaatgaattc	tgagctttct	1860
cttagttgta	agaaagaaaa	agacatcttg	catgaaaata	gtacgttgog	ggaagaaatt	1920

gccatgctaa gactggagct agacacaatg aaacatcaga gccagctaaa aaaaaaanaaa 1980
 aaaaaaanaaa aaaaaaanaaa 2000

<210> 375
 <211> 2040
 <212> DNA
 <213> Homo sapien

<400> 375
 atgggtgggtt aggttgatgc catgcccggct gectottctg tgaagaagcc atttgggtctc 60
 aggagcaaga tgggcaagt gtgctgccgt tgcctccctt gctgcaggga gagcggcaag 120
 agcaacgttg gcaattcttg agaccaogac gactctgcta tgaagacact caggagcaag 180
 atgggcaagt ggtgcgcgca ctgcttcccc tgctgcaggg ggagtggtcaa gagcaacgtg 240
 ggcgctcttg gagaccacga ogactctgct atgaagacac tcagggaacaa gatgggcaag 300
 tgggtgctgac actgctctcc ctgctgcagg gggagcggca agagcaagggt gggcgcttgg 360
 ggagactacg atgacagtgc cttcatggag ccaggtacc aogtcogtgg agaagatctg 420
 gacaagctcc acagagctgc ctgggtgggt aaagtccca gaaaggatct catcgtcctg 480
 ctccaggaca ctgacgtgaa caagaaggac aagcaaaaga ggactgctct acatctggcc 540
 tctgccaatg ggaattcaga agtagtaaaa ctctgctgg acagacgatg tcaacttaat 600
 gtccttgaca acaaaaagag gacagctctg ataaaggcog tacaatgcca ggaagatgaa 660
 tgtgcgttaa tggctgctga acatggcact gatcccaata ttccagatga gtatggaaat 720
 accactctgc actacgctat ctataatgaa gataaattaa tggccaaagc actgctctta 780
 tatgggtgctg atatcgaatc aaaaaacaag catggcctca caccactgtt acttgggtgta 840
 catgagcaaa aacagcaagt cgtgaaattt ttaatcaaga aaaaagcgaa tttaaatgca 900
 ctggatagat atggaaggac tgcctccata ctgctgtat gttgtggatc agcaagtata 960
 gtcagccttc tacttgagca aaatatgat gtatcttctc aagatctatc tggacagacg 1020
 gccagagagt atgctgttct tagtcatcat catgtaattt gccagttact ttctgactac 1080
 aaagaaaaac agatgctaaa aatctcttct gaaaacagca atccagaaca agacttaag 1140
 ctgacatcag aggaaggatc acaaaagggtt aaaggcagtg aaatagcca gccagagaaa 1200
 atgtctcaag aaccagaagt aaataaggat ggtgatagag aggttgaaga agaatgaag 1260
 aagcatgaaa gtaataatgt gggattacta gaaaacctga ctaatgggtg cactgctggc 1320
 aatggtgata atggattaat tccctcaagg aagngcagaa cactgaaaa tcagcaattt 1380
 cctgacaacg aaagtgaaga gtatcacaga atttgcgaat tagttctga ctacaagaa 1440
 aaacagatgc caaataactc ttctgaaaaa agcaaccag aacaagactt aaagctgaca 1500
 tcagaggaag agtcacaaag gcttgagggg agtgaaaatg gccagccaga gaaaagatct 1560
 caagaaacag aaataataa ggaatgggtgat agagagctag aaaaatttat ggctatcgaa 1620
 gaaatgaaga agcacggaag tactcatgtc ggattcccag aaacactgac taatggtgac 1680
 actgctggca atgggtgatg tggattaatt cctccaaggga agagcagaac acctgaaagc 1740
 cagcaatttc ctgacactga gaatgaagag tatccagatg aogaaacaaa tgatactcag 1800
 aagcaatttt gtgaagaaca gaacactgga atattcacag atgagattct gattcatgaa 1860
 gaaagcaga tagaagtgt tgaaaaaatg aattctgagc ttctcttag ttgtaagaaa 1920
 gaaaaagaca tottgcatga aaatagtaag ttgogggaag aaattgccat gctaagactg 1980
 gagctagaca caatgaaca tcagagccag ctcaaaaaa aaaaaaanaaa aaaaaaanaaa 2040

<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376
 Met Asp Ile Val Val Ser Gly Ser His Pro Leu Trp Val Asp Ser Phe
 1 5 10 15
 Leu His Leu Ala Gly Ser Asp Leu Leu Ser Arg Ser Leu Met Ala Glu
 20 25 30
 Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
 35 40 45
 Leu Asp Gly Gln Gly Glu Arg Gln Glu Arg Gly His Phe Trp Arg
 50 55 60

```

Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
65          70          75          80
Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
      85          90          95
Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
      100          105          110
His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
      115          120          125
Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
      130          135          140
Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
145          150          155          160
Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
      165          170          175
Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
      180          185          190
Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
      195          200          205
Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
      210          215          220
Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
225          230          235          240
Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
      245          250          255
Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
      260          265          270
Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
      275          280          285
Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
      290          295          300
Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
305          310          315          320
Ser Met Leu Phe Leu Val Ile Ile Met
      325

```

<210> 377
 <211> 148
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(148)
 <223> Xaa = Any Amino Acid

```

<400> 377
Met Thr Xaa Pro Ser Trp Ser Pro Gly Thr Thr Ser Val Glu Lys Ile
1          5          10          15
Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
      20          25          30
Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
      35          40          45
Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
      50          55          60
Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
65          70          75          80
Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
      85          90          95

```

Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 120
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378
 <211> 1719
 <212> PRT
 <213> Homo sapien

<400> 378
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val

				805					810					815	
Leu	Leu	Glu	Asn	Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn
			820					825						830	
Gly	Leu	Ile	Pro	Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe
		835					840					845			
Pro	Asp	Asn	Glu	Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys	Glu	Leu	Val	Ser
	850					855					860				
Asp	Tyr	Lys	Glu	Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser	Glu	Asn	Ser	Asn
865					870					875				880	
Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Leu
			885					890						895	
Glu	Gly	Ser	Glu	Asn	Gly	Gln	Pro	Glu	Leu	Glu	Asn	Phe	Met	Ala	Ile
		900					905					910			
Glu	Glu	Met	Lys	Lys	His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn
	915						920					925			
Leu	Thr	Asn	Gly	Ala	Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro
	930						935					940			
Pro	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu
945					950					955				960	
Asn	Glu	Glu	Tyr	His	Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe
			965						970					975	
Cys	Glu	Glu	Gln	Asn	Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His
		980					985						990		
Glu	Glu	Lys	Gln	Ile	Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser
	995						1000					1005			
Leu	Ser	Cys	Lys	Lys	Glu	Lys	Asp	Ile	Leu	His	Glu	Asn	Ser	Thr	Leu
	1010					1015					1020				
Arg	Glu	Glu	Ile	Ala	Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His
1025					1030					1035				1040	
Gln	Ser	Gln	Leu	Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met
			1045						1050					1055	
Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met
		1060						1065					1070		
Gly	Lys	Trp	Cys	Cys	Arg	Cys	Phe	Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys
	1075						1080				1085				
Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr
	1090					1095					1100				
Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys	Cys
1105					1110					1115				1120	
Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp
			1125						1130					1135	
Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His
		1140						1145					1150		
Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp
	1155						1160					1165			
Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg
	1170					1175					1180				
Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val
1185					1190					1195				1200	
Pro	Arg	Lys	Asp	Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys
			1205						1210					1215	
Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn	Gly
		1220						1225					1230		
Asn	Ser	Glu	Val	Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn
	1235						1240					1245			
Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys
	1250					1255					1260				
Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro

1265	1270	1275	1280
Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr			
1285	1290	1295	
Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp			
1300	1305	1310	
Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Gly Val			
1315	1320	1325	
His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala			
1330	1335	1340	
Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala			
1345	1350	1355	1360
Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn			
1365	1370	1375	
Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr			
1380	1385	1390	
Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr			
1395	1400	1405	
Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu			
1410	1415	1420	
Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly			
1425	1430	1435	1440
Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn			
1445	1450	1455	
Lys Asp Gly Asp Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser			
1460	1465	1470	
Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly			
1475	1480	1485	
Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu			
1490	1495	1500	
Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys			
1505	1510	1515	1520
Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser			
1525	1530	1535	
Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu			
1540	1545	1550	
Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser			
1555	1560	1565	
Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe			
1570	1575	1580	
Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe			
1585	1590	1595	1600
Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly			
1605	1610	1615	
Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro			
1620	1625	1630	
Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln			
1635	1640	1645	
Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile			
1650	1655	1660	
Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser			
1665	1670	1675	1680
Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn			
1685	1690	1695	
Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr			
1700	1705	1710	
Met Lys His Gln Ser Gln Leu			
1715			

<210> 379
 <211> 656
 <212> PRT
 <213> Homo sapien

<400> 379

```

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1          5          10          15
Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20          25          30
Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35          40          45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50          55          60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65          70          75          80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85          90          95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
100          105          110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
115          120          125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
130          135          140
Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
145          150          155          160
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
165          170          175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
180          185          190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
195          200          205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
210          215          220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
225          230          235          240
Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
245          250          255
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
260          265          270
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
275          280          285
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
290          295          300
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
305          310          315          320
Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
325          330          335
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
340          345          350
Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
355          360          365
Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
370          375          380
Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
385          390          395          400
Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
405          410          415

```

Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
 625 630 635 640
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
 645 650 655

<210> 380

<211> 671

<212> PRT

<213> Homo sapien

<400> 380

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala

[illegible]

625		630		635		640
Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala						
	645		650		655	
Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu						
	660		665		670	

<210> 381
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 381
 ggagaagcgt ctgctggggc aggaaggggt ttccctgccc tctcaccctgt cctccaccaa 60
 ggtaaccatgc ttcccttaag ggtatcccaa cccagggggc tcccatgac ctctgagggg 120
 ccaatatccc aggagaagca ttggggagtt gggggcaggt gaaggaccca ggactcacac 180
 atcctggggc tccaaggcag aggagaggggt cctcaagaag gtcaggagga aaatccgtaa 240
 caagcagtea g 251

<210> 382
 <211> 3279
 <212> DNA
 <213> Homo sapiens

<400> 382
 ctctcctgcag ccccccattgct ggtgaggggc acggggcagga acagtggaac caacatggaa 60
 atgctggagg gtgtcaggaa gtgatcgggc tctggggcag ggaggagggg tggggagtg 120
 cactggggag ggacatcctg cagaaggtag gagtggagcaa acaccogctg caggggaggg 180
 gagagccctg cggcacctgg gggagcagag gtagcagcac ctgcccaggg ctgggagggg 240
 gggcctggag ggcgtgagga ggaagcaggg ggcctgcatgg ctggagtgag ggtacagggg 300
 caggggcggc gatggcctca cacagggaag agaggggccc tctgcaggg cctcacctgg 360
 gccacaggag gacactgctt ttctctctgag gagtccaggag ctgtggatgg tgcctggacg 420
 aagaaggaca gggcctggct cagggtgtcca gaggctgtcg ctggcttccc ttctggatca 480
 gactgcaggg agggagggcg gcagggttct ggggggagtg acgatgagga tgacctgggg 540
 gtggctccag gcttgcgcc tgcctggggc ctaccccagc ctccctcaca gtctcctggc 600
 cctcagtcct cccctccac tccatcctcc atctggcctc agtgggtcat tctgatcact 660
 gaactgacca taccagggcc tgcacacggc cctccatggc tccccaatgc cctggagagg 720
 ggacatctag ttagagagta gtctgaaga ggtggcctct gcatgtgccc tgtgggggca 780
 gcatcctgca gatggctccg gccctcatcc tgcctgacctg tctgcaggga ctgtcctcct 840
 ggaccttgcc ccttgctgag gagctggacc ctgaagtcct ctcccatag gccaaagactg 900
 gagecctgtt cctctgttgg gactccctgc ccatattctt gtgggagtggt gttctggaga 960
 catctctgtc tgttctctgag agctgggaat tgcctctcagt catctgctg cgcgggttctg 1020
 agagatggag ttgcctaggc agttattggg gccaatcttt ctcaactgtgt ctctcctcct 1080
 ctaccccttag ggtgattctg ggggtccact tgcctgtaat ggtgtgtctt caaggtatcac 1140
 atcatggggc cctgagccat gtgccttgcc tgaagaagcct gctgtgtaca ccaagggtgg 1200
 gcattaccgg aagtggatca aggcacacct cgcagccaac cctgagtgcc cctgttccca 1260
 cccctaccto tagtaaatct aagtcacact caagtctctg catcacttgg cctttctgga 1320
 tgcctggacac ctgaagcttg gaactcacct ggcggagct cgagcctcct gagtctact 1380
 gacctgtgct ttctgggtgt ggtccagggt ctgctaggaa aaggaaatggg cagacacagg 1440
 tgtatgccaa tgtttctgaa atgggtataa ctctgtctct tctctgggaa cactggctgt 1500
 ctctgaagac ttctcgtca gtttcagtga ggacacacac aaagacgtgg gtgacctgt 1560
 tgtttgtggg gtgcagagat gggaggggtg gggccacccc tgggaagagt gacagtga 1620
 caaggtggac actctctaca gatcactgag gataagctgg agccacaatg catgaggca 1680
 acacacagca aggttgagcg tgaacacata gccacgctg tccctggggg actggggaagc 1740
 ctagataaag ccgtgagcag aaagaagggg aggatcctcc tatgttgttg aaggagggac 1800
 tagggggaga aactgaagac tgaattaata caggaggttt gttcaggtcc ccaaacccac 1860
 cgtcagattt gatgatttcc tagcaggact tacagaaata aagagctatc atgctgtgg 1920
 ttattatggg ttgttacatt gataggatcc atactgaatc cagcaaacaa aacagatgta 1980
 tagattagag tgtggagaaa acagaggaaa acttgagctt acgaagactg gcaacttggc 2040

```

tttactaagt tttcagactg gcagggaagtc aaacctatta ggctgaggac cttgtggagt 2100
gtagctgata cagctgatat aggaactagc caggtggggg cctttccctt tggatggggg 2160
gcatatccga cagttattct ctccaagtgg agacttaagg acagcatata attctccctg 2220
caaggatgta tgataatatg tacaaagtaa ttccaactga ggaagctcac ctgattcctt 2280
gtgtccaggg tttcttactg gggctctgtg gacgagtatg gagtacttga ataattgacc 2340
tgaagtcctc agacctgagg ttccctagag ttcaaacaga tacagcatgg tccagagtcc 2400
cagatgtaca aaaacagggg ttcattcaca atcccatctt tagcatgaag ggtctggcat 2460
ggcccaaggc cccaagtata tcaaggcact tgggcagaac atgccaagga atcaaatgtc 2520
atctcccagg agttattcaa gggtagagcc ttactttggg atgtacaggc tttagacagt 2580
gcagggtgct cgagtcacac ttttattgta caggggatga gggaaaagga gaggatgagg 2640
aagcccccct ggggatttgg ttgtgtcttg tgatcagggt gtctatgggg ctatccctac 2700
aaagaagaat ccagaaatag gggcacattg aggaatgata ctgagcccaa agagcattoa 2760
atcattgttt tatttgcctt cttttcacac cattgggtgag ggagggatta ccacctggg 2820
gttatgaaga tggttgaaca cccacacat agcaccggag atatgagatc aacagtttct 2880
tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca ggatgacatg 2940
gggatgagc tgggatttgg tgtgaagaag caaggactgt tagaggeagg ctttatagta 3000
acaagacggc ggggcaaaact ctgatttccg tgggggaatg tcatggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaaactcat taggctgaga acctgttggg atgcagctga 3120
cccagctgat agaggaagta gccaggtagg agcctttccc agtgggtgtg ggcataatct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaattct 3240
gttttcagac cttaaaaaaa aaaaaaaaaa aaaagtttt 3279

```

<210> 383

<211> 154

<212> PRT

<213> Homo sapiens

<400> 383

```

Met Ala Gly Val Arg Asp Gln Gly Gln Gly Ala Arg Trp Pro His Thr
      5                                10                        15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
      20                                25                        30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
      35                                40                        45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
      50                                55                        60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
      65                                70                        75                        80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala
      85                                90                        95

Trp Ala Leu Thr Gln Pro Pro Ser Gln Ser Pro Gly Pro Gln Ser Leu
      100                               105                               110

Pro Ser Thr Pro Ser Ser Ile Trp Pro Gln Trp Val Ile Leu Ile Thr
      115                               120                               125

Glu Leu Thr Ile Pro Ser Pro Ala His Gly Pro Pro Trp Leu Pro Asn
      130                               135                               140

Ala Leu Glu Arg Gly His Leu Val Arg Glu
      145                               150

```

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatccctcta gagcgccgcg ctactactac taaattccgg gccgcgtcga cgaagaaagag 60
 aaagatgtgt tttgttttgg actctctgtg gtcccttcca atgctgtggg tttccaaaca 120
 ggggaagggt ccccttttgc ttgccaagtg ccataacoat gagcactact ctaccatggt 180
 tctgcctcct ggccaagcag gctgggtttgc aagaatgaaa tgaatgattc tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcaat cccattttgc ggatccgctc gtgcacatgc 300
 ctctgttagag agcagcattc ccaggagact tggaaacagt tggcactgtc aggtgcttgc 360
 tccccaagac acatcctaaa aggtgttgta atggtgaaaa cgtcttctct ctttatttgc 420
 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaagt 480
 tcaattgtga aatatgaatc catgcaaatc aattctggca ttttttttct aaggtcaaaa 540
 aaaaaaaana aaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcaccaggtg atgtgcgagg gaagacacat ttactatcct tgatggggct gattccttta 60
 gtttctcttag cagcagatgg gttaggagga agtgacocaa gtgggttgact cctatgtgca 120
 tctcaaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
 aaaagtgagg gtgcttttcc tcagctaaga agccctkagc aaaagctcga atagacttag 240
 tatcagacag gtccagtttc cgcaccaaca cctgctgggt ccctgtogtg gtctggatct 300
 ctttggccac caattccccc ttttccacat ccgggca 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgcta ccggccccagg ccccgccctg cgagtcctcc tcccccgggtg cctgcccgcga 60
 gcccgcctcg cccagagggg gggcgccggg ctgcctctac cggctggcgg ctgttaactca 120
 ggcaccttgg cccgaaggct ctgcaaggga cccaccgacc ccagccgcgg cggcggcggc 180
 gcggactttg cccggtgtgt gggcgggagc ggactgcgtg tccgcggagc ggcagcgaag 240
 atgttagcct tgcctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

<400> 387
 gggccgagtc gggcaccaag ggactctttg caggcttctt tctcgggata atcaaggctg 60
 cccctccttg tgccatcatg atcagcactt atgagttogg caaaagcttc ttccagaggc 120
 tgaaccagga ccggtctctg ggcggctgaa aggggcaagg aggcaaggac cccgtctctc 180
 ccaoggatgg ggagagggca ggaggagacc cagccaagtg cctcttctct agcactgagg 240
 gagggggctt gtttcccttc cctcccggcg acaagctcca gggcagggct gtccctcttg 300
 gggccccagc acttccctcag acacaaacttc tctctgctgc tccagtcgtg gggatccatca 360
 cttaccaccc ccccaagttc aagaccasat ctctcagctg ccccttctgt gtttccctgt 420
 gtttctgtga gctgggcatg tctccaggaa ccaagaagcc ctcagccctg tgtagtctcc 480
 ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaa aaaaaaa 537

<210> 388
 <211> 520
 <212> DNA
 <213> Homo sapiens

```

<400> 388
aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgagggttaaa ccagtttgca ttcccctaatt gtggaaaaag taagaggact actcagcact 120
gtttggaagat tgcctcttct acagcttctg agaatttgtt tatttcactt gccaaagtga 180
ggacccccctc cccaacatgc ccacgcccac cctaagcat ggcccttctt caccaggcaa 240
ccaggaaact gctacttggt gacctcacca gagaccagga gggtttgggt agotcacagg 300
acttccccca cccagaaga ttagcatccc ataactagact catactcaac tcaactaggc 360
tcatactcaa ttgatgggta ttagacaact ccatttcttt ctggttatta taaacagaaa 420
ctcttctctc ttctcattac cagtaagggc tcttggtatc tttctggttg aatgatttct 480
atgaacttct cttattttta tggtaggggt ttttctgggt 520

```

<210> 389
 <211> 365
 <212> DNA
 <213> Homo sapiens

```

<400> 389
cgttgccccg gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
gagtttaaggc tggatttcag atctgcctgg ttccagccgc agtgtgcctt ctgctccccc 120
aacgacttcc caaatattct caccagcgcc ttccagctca ggcgtccctg aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgct ctgtctctac agctgagact 240
cccaggaaac cttcagacta ctttccctct ccttcagcaa ggggcgttgc ccacattctc 300
tgagggtcag tggaaagaacc tagactccca ttgtctagag tagaaagggg aagggtgctg 360
gggag 365

```

<210> 390
 <211> 221
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> [1]... (221)
 <223> n = A,T,C or G

```

<400> 390
tgctctctca tcttggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggntt ctcattgggt tggaaacatc ctgcttgogg ttccaggaag gctctctggc 120
gctctangag tctgancnga ntgcttgccc cctcttgaca naaggaaagg cggagcttat 180
tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221

```

<210> 391
 <211> 325
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> [1]... (325)
 <223> n = A,T,C or G

<400> 391

```

tggagcaggt cccgagggct ccttagagcc tggggccgac tctgtgncga tgcangcttt 60
ctctogcgcc cagcctggag ctgctcctgg catctaccaa caatcagnog aggcgagcag 120
tagccagggc actgctgcca acagccagtc cnnataccat catgtnaccc ggtgngctct 180
naantcngat ntccanagcc ctacccatcn tagttctgct cccccacgg ntaccagccc 240
cactgcccag gaactctaca gcagtaacc tgtcccgacg tctctaccta ccagtaagat 300
gagacctccg gctactacta tgacc 325

```

<210> 392

<211> 277

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(277)

<223> n = A,T,C or G

<400> 392

```

atattgttta actccttctt ttatatcttt taacattttt atggngaaag gttcacatct 60
agtctcaactt nggenagngn ctctactctg agtctcttcc ccggcctgno ccagtnghaa 120
antaccanga accgncatgn cttanaaach nccctggtttt tgggttnttc aatgaactga 180
tgcaagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240
ctgaggatag agcgcccgct cctgtgttgc tggggaa 277

```

<210> 393

<211> 566

<212> DNA

<213> Homo sapiens

<400> 393

```

actagtcacg tgtggtggaa ttogcgcccg cgtcgacgga caggtcagct gtctggctca 60
gtgatctaca ttctgaagtt gtctgaaat gtcttcatga tttaattcag cctaaacgtt 120
ttgcggggaa cactgcagag acatgctgtt gagtttccaa ccttagccca tctgcgggca 180
gagaaggtct agtttctcca tcagcattat catgatata ggaactggcta cttgggttaag 240
gaggggtcta ggagatctgt cccctttaga gacaccttac ttataatgaa gtatttcggga 300
gggtggtttt caaaagtaga aatgtcctgt attccgatga tcatcctgta aacattttat 360
cattkattaa tctcctctgc ctgtgtctat tatttatctc atctctctac gctggaaaact 420
ttctgcctca atgtttactg tgcctttgtt tttgctagtt tgtgttgttg aaaaaaaa 480
cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540
ttttgcctat caaaaaaaa aaaaaa 566

```

<210> 394

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(384)

<223> n = A,T,C or G

<400> 394

```

gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
tgcaaatatg gaccgggcca aggcctggact gctggagcgt gtgaaggagc tacaggccna 120
gcaggaggac ogggctttaa ggagttctaa gctgagtgct actgtagacc ccaaatacca 180
tcccagagat atcgggagaa agggggcagc aattacccaa atcgggttgg agcatgacgt 240
gascctccag tttcctgata aggacgatgg gaaccagccc caggaccaaa ttaccatcac 300
agggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360

```

tgagcagatg gtttctgagg acgt

394

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```
ggcaaaactg tgtgacctca atagacctc gcagatccaa ggtcagtat cagaagtgc 60
tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcatcattg cggaaattgt ggagtctaa gaaatcatgg cctctgaagt 180
attcacgtct tccagtaacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttgggaagcc tgggcactct ctcactacag acctctgacc atgggacggt 360
gcagcctggt gagaccatcc aatcccaaat aaaatgcac 399
```

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```
tggagttntc agtgcaaca agccataaag ctccagtagc aaattactgt ctccagaaa 60
gacattttca acttctgtct cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcatlaact cctagagaaa aaaaggagtt gttagtagat 180
actaiaaaaaa gtggatgaat aatctggata tttttcttaa aaagattcct tgaaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttagggga gggagtgagg gataaaaaga ggaiaaaaag aagagtgaga aaacctattt 360
atcaaaagcag gtgctatcac tcaatgttag gccctgctct ttt 403
```

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397

```
actagtnacg tatgttgaa ttggggggcg cgtcgacctc naanccatct ctatagcaaa 60
tccatccccc ctcttggttg gtnacagaat gactgacaaa 100
```

<210> 398

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

```

<400> 398
gogggcgcgt cgacagcagc tccgccagcg ctgcgccctg ggtggggatg tgctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcaactactgt gccctcgacca gtgaggagag ctggaccgac agcgaggtag actcatcatg 180
ctccgggcag cccatccacc tgtggcaggt cctcaaggag ttgctactca agccccacag 240
ctatggccgc ttcattangt ggctcaacaa ggagaagg 278

```

```

<210> 399
<211> 298
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1) ... (298)
<223> n = A,T,C or G

```

```

<400> 399
acggagggtg aggaagcgnc cctgggagcg anaggatggg tectgncatt gaccncctcn 60
ggggtgccng catggagcgc atgggcgcgg gcctgggcca cggcatggat gcgctgggct 120
ccgagatcga gcgcattggg ctggtcattg accgcattgg ctccgtggag gcgatgggct 180
ccggcattga gcgcattggg ccgctgggcc tcgaccacat ggctctcanc attgancgca 240
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcattggg 298

```

```

<210> 400
<211> 548
<212> DNA
<213> Homo sapiens

```

```

<400> 400
acatcaacta ctctctcatt ttaaggstatg gcagttccct tcatccctct tctctgcttt 60
gtacatgtac atgtatgaaa ttcccttctc ttaccgaact ctctccacac atcacaagggt 120
caaaagaacca caggtttaga agggtaagag ggcacctat gaaatgaaat ggtgatttct 180
tgagtctctt ttttccacgt ttaagggggc atggcaggac ttagagttgc gaggtaagac 240
tgcagagggc tagagaatta ttccatacag gccttgaggc caccatgtc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgccccc aagatgcacac tgggcagcta 360
gttggccccca taattctggg cctttgttgt ttgttttaat tacttgggca tccraggaag 420
ctttccagtg atctctacc atgggcccc ctctgggat caagccctc ccaggccctg 480
tccccagccc ctctgcccc agcccaccog ctbgccttgg tgctcagccc cccatttggg 540
agcagggtt 548

```

```

<210> 401
<211> 355
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1) ... (355)
<223> n = A,T,C or G

```

```

<400> 401
actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60
tgatgtctcc aagtagtcca ccttcattta accctttgaa actgtatcat ctttgccaag 120
taagagtggg ggctatttct agctgctttg acaaatgac tggctcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtcccc atgggtggcg cgaagaaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnggg ttcccaacca ggggaagggt 300

```


ccctttttgca ttgccaagtg ccataaccat gagcactact ctaccatggn tctgc 355

<210> 402

<211> 407

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(407)

<223> n = A,T,C or G

<400> 402

```
atggggcaag ctggataaag aaccaagacc cactggagta tgcgtgtcttc aagaaccaca 60
tctcacatgc ggtggcatat ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120
aaatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180
gaataaagat aaaaaagaga aggacattac aaaggtgggc ctgacctttg ataaatctca 240
ttgcttgata ccaacctggg ctgttttaat tgcctcaacc aaaaggataa tttgctgagg 300
ttgtggagct tctccctgc agagagtcct tcatctccca aaatttggtt gagatgtaag 360
gntgattttg ctgacacacc cttttctgaa gttttactca tttccaa 407
```

<210> 403

<211> 303

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 403

```
cagtatttat agcnaactg aaaagctagt aycaggcaag tctcaaatcc aggcacccaa 60
tcttaagcaa gagccatggc atgggtgaaa tgcataaagg gactctggcc aatctacaaa 120
tagagaacaa gacctactca gtcatgaaca aaaaggcaga caccaacatg gatctcatgg 180
gggattggat attgttaatta tagagcagga agatgacagt gatcgtcatt tggcacaaca 240
tcttaacaa caccgaaccc cattatttac ataaacctcc attcggtaac catgttgaaa 300
gga 303
```

<210> 404

<211> 225

<212> DNA

<213> Homo sapiens

<400> 404

```
aagtgttaact tttaaaaakt tagtggattt tgaaaattct tagaggaaaag taagggaaaa 60
attgttaaat cactcattta cttttacatg gtgaaagttc tctcttgatc ctacaaacag 120
acattttcca ctctgttttc catagtgttt aagtgtatca gatgtgttgg gcatgtgaat 180
ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcac 225
```

<210> 405

<211> 334

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(334)

<223> n = A,T,C or G

<400> 405

```

gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
ttcaatacac ctcccccat agtgaatcag ctccagggg gtccagtcce tctccttact 120
tcattcccat cccatgcraa aggaagaccc tccctccttg gtcacagcc ttctctagga 180
ttccagtgcc ctccaggaca gagtggggtt tgttttcagc tccatccttg ctgtgagtgt 240
ctgggtgagg tgtgcctcca gctctctgct agtgcctcat ggacagtgtc cagcccatgt 300
cactctccac tctctcannb tggatcccac cctt

```

<210> 406

<211> 216

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 406

```

tttcatacct aatgagggag ttganatnac atnnaaccag gaaatgcctg gatctcaang 60
gaacacaaac cccaataaac tcggagtgcc agactgacaa ctgtgagaca tgcacttgct 120
acnaaacaca aattttnatgt tgcacccttg ttctctacac tgtgggttat gacaaagaca 180
actgccaaag aatnttcaag aaggaggact gccant

```

<210> 407

<211> 413

<212> DNA

<213> Homo sapiens

<400> 407

```

gctgacttgc tagtatcato tgcattcatt gaagcacaag aacttcattg cttgactcat 60
gtcaatgcaa taggatkcaa aaataaattt gatatcacat ggaacagac aaaaaatatt 120
gtacaacatt gcacccagtg tcagattcta cacttgcca ctcaggaagc aagagttaat 180
cccagaggtc tatgtctcaa tgtgttatgg caaatggatg tcattgacgt accttcattt 240
ggaaaattgt catttgtcca tgtgacagtt gatacttatt cactttcat atgggcaacc 300
tgccagacag gagaasgtct tcccatgtta aaagacattt attatcttgt ttctctgtca 360
tgggagttcc agaaaaagtt aaaacagaca atgggacagg ttctgtagta aag

```

<210> 408

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(183)

<223> n = A,T,C or G

<400> 408

```

ggagctngcc ctcaattect ccaatntctat gttancatat ttaatgtctt ttgmatttaa 60
tnccttaacta gttaatcctt aaagggetan ntaatcotta actagtccct ccattgtgag 120
cattatcctt ccagtatton ccttctnttt tatttaactcc ttcttggtca cccatgtact 180
ntc

```

<210> 409

<211> 250

[4]

```

<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(250)
<223> n = A,T,C or G

<400> 409
cccacgcacg ataacgtctt tatttctgtt agtcctgctt ggaatcctt aaatctgacg 60
gtggtttggg ggaacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180
gcttcccagt gccccagga cagcgtgggc tatgtttaca gcgctcctt gctggggggg 240
ggcctatgc 250

<210> 410
<211> 306
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(306)
<223> n = A,T,C or G

<400> 410
ggctgggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
agtcttgcaa tccatttgc aggatccgtc tgtgcacatg cctctgtaga ggcagcatt 120
cccagggacc ttggaaacag ttggcactgt aaggtgcttg ccccccaaga cacatcctaa 180
aaggctgttg aatggtgaaa accgcttctt tctttattgc ccttcttat ttatgtgaac 240
nactgggttg ctcttcttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
tcttgc 306

<210> 411
<211> 261
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

<400> 411
agagatactn cttaggtnaa agttcataga gttcccatga actatattgac tggccacaca 60
ggatcttttg catttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa gngagggcaa a 261

<210> 412
<211> 241
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(241)

```

<223> n = A,T,C or G

```
<400> 412
gttcaatgct acctgacatt tctacaacac cccactcaac gatgtattcg ttgccagtg 60
ggaacatacc agcctgaatt tggaaaaaat aattgctgtt cttgccccagg aaatactacg 120
actgaactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
ctgggagatt tcactgggta cattgaattc ccactacc cangcaatta ccagccaac 240
a                                         241
```

<210> 413

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> 11)...(231)

<223> n = A,T,C or G

```
<400> 413
aactottaca atccaaagtga ctcatctgtg tgcctgaatc ctttccactg tctcactcgc 60
ctcatccaag ttctctagta cttctctttg ttgtgaagga taatcaaacg gaacaacaaa 120
aagtttaact tctcatttg gaacctaaaa actctcttct tctgggtct gagggctcca 180
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t      231
```

<210> 414

<211> 234

<212> DNA

<213> Homo sapiens

```
<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tccagcgaag 60
gatggagctg aaacataaac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagagggg 180
ctggaccccc tggaagctga ttcaactatg ggggagggtg attgaagtc tcca      234
```

<210> 415

<211> 217

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> 1)...(217)

<223> n = A,T,C or G

```
<400> 415
gcattaggatt aagactgagt atcttttcta cattcttta actttctaag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgcctcaagg ntctaccac cactttctca 120
cacttagcaa tcttagaatt cagtcctact tctgaggcca gaagaatggc tcagaaaaat 180
antggattat aaaaaatcac aattaagaaa aataatc      217
```

<210> 416

<211> 213

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(213)
 <223> n = A,T,C or G

<400> 416
 atgcatatnt aaagganact gcctcgcttt tagaagacat ctggnetgct ctctgcatga 60
 ggcacagcag taaagctctt tgattcccag aatcaagaac tctccccttc agactattac 120
 ogaatgcaag gtgggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
 atattggaac agatggagtc tctactacaa aag 213

<210> 417
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...(303)
 <223> n = A,T,C or G

<400> 417
 nagtcttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60
 gtgggaaaagg ctttactctg agttcaaate tccaagccca tcagagagtc cacactggag 120
 agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180
 ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggct 240
 tcantrcaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300
 agt 303

<210> 418
 <211> 328
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 418
 tttttggcgg tggtagggga gggacgggac angagtetca ctctgttgcc caggctggag 60
 tgcacaggca tgatctcgcc tcaactacaac cctgcctcc catgtccaag cgattcttgt 120
 gctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
 gtatttttag tagagacagg gtthcaccat gttggccagg ctgggtctca actcctnacc 240
 tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgccacc tcagcctccc 300
 aaagtgcctan gattacagga cgtgagcc 328

<210> 419
 <211> 389
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...(389)
 <223> n = A,T,C or G

<400> 419
 cctcctcaag aaggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatag 60

```

acctctgagc catggactgg agcctgaaag gcagcgtaaa cccctgctct gatcttgetg 120
cttgcttctt ctctgtggct ccattcatag cacagttagt gcactgaggg ttgtgcaggg 180
cgagcaaggc caagctggct caaagagcaa ccagtcacac ctgccacggg gtgcraggca 240
crggttcttc agccaccaac ctcactcgct ccgcgaaatg gcacatcagt tcttctaccc 300
taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatcacg 360
tggcagccac tcnngctgtg tggcgcgg 389

```

<210> 420

<211> 408

<212> DNA

<213> Homo sapiens

<400> 420

```

gttctctcta actcctgccg gaaacagctc tctcaacat gagagctgca cccctctctc 60
tggccagggg agcaagcctt agccttggct tcttgtttct gcttttttct tggctagacc 120
gaagtgtact agccaaggag ttgaagtgtt tgaatttggg gttctgggat ggagaccgaa 180
gtcccatatga caactttccc actgacccca taagggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctggggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtctata aacatgaaca ggtttatatt cgaagcacag 360
aegttgaccg gaatttggat agtgctatg acaacctgg caagcccc 408

```

<210> 421

<211> 352

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}...(352)

<223> n = A,T,C or G

<400> 421

```

gtcacaatat ctttttactg atnggcattg ctacacaatc attgactatt acggaggcca 60
gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca gaacagggtct tttttgggtc cttcttctcc accacnatac acttgcagtc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacagggt tagaaacaag 240
ggtgcaacat gaaatttctg ttctgtagca agtgcattgc tcacaagttg gcangtctgc 300
cactccaggt ttattgggtg tttgttctct ttgagatcca tgcatttctt gg 352

```

<210> 422

<211> 337

<212> DNA

<213> Homo sapiens

<400> 422

```

atgccaccat gctggcaatg cagcggggcg tgaaggcct gcatatccag cccaagctgg 60
cgatgatcga cggcaaccgt tgcgcgaagt tgcgatgcc agccgaagcg gtggtcaagg 120
gcgatagcaa ggtgcggcg atcgcgcgcg cgtcaatcct ggccaaggct agccgtgac 180
gtgaatggc agctgtcgaa ttgatctacc cgggttatgg catcggcggg cataagggct 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gcgacggcg attcacggac 300
gcttcttccg ccggtacggc tggcctatga aaattat 337

```

<210> 423

<211> 310

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 423
 gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
 aggagaatga ggcttggcct gggagccctg tgctactan aagcncatta gattatccat 120
 tcactgacag aacaggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagtc 180
 tctttcttga agattctctg gcagttgtct ttgtcataac ccacaggtgt aaaaacaagg 240
 gtgcaacatg aaatttctgt ttcgtagcaa gtgcatgtct cacagttgtc aagctctgcc 300
 tccgagttta 310

<210> 424
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 424
 gctcaaaaat ctttttactg ataggcatgg ctacacaact attgactatt agaggccaga 60
 ggagaaatga ggcttggcct gggagccctg gctactaga aycacattag attatccat 120
 cactgacaga acaggtctt ttttgggtcc tcttctccac cagcatatac ttgcagtcct 180
 ccttctttaa gattctcttg cagttgtct ttgtcataac ccacaggtgt gaaacatcct 240
 ggttgaatct ccttggcaact cctcattagg tatgaatag catgatgat tgcataaagt 300
 caccaggtg gcaagatca caacgtgcc cagganaaca ttcattgtga taagcaggac 360
 tccgtcgaag 370

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aactgctatn ntttattttg ccaactcaaa taattaccaa aaaaaaaaaa tnttaaatga 60
 taacsacnca acatcaaggc aaananaaca ggaatggntg actntgcata aatnggrrca 120
 anattatcca ttatnttaag ggttgacttc aggnacagc acacagacaa acatgccocag 180
 gaggntntca ggacogctcg atgtntntng agggagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 cttccagbga ggataaccct gttgcccggg gccgaggttc tccattaggc tctgattgat 60
 tggcagtcag tgatggcagg gtgttctgat cactccgact gccccagggg tgcctggcca 120
 gctctctgtt ttgtgagctt ggcagtagga cctaatttct taatcaagag tagatggtga 180
 gctgtccttg tattttgatt aacctaattg ccttccragc acgactcggg ttcagctgga 240
 gacatcaogc caacttttaa tgaantgat tgaagggcc ctaagaggca cttcccgta 300

```

ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
ggtggatggc cttttcagct ttaacccaat ttgcactgcc ttggaagtgt agccaggaga 480
atacactcat atactcgttg gcttagaggg cacagcagat gtcattggtc tactgcctga 540
gtcccgctgg tccccccca ggaacttcca tggcgagta cctgggagcc cgtgct 596

```

<210> 427

<211> 107

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}...{107}

<223> n = A,T,C or G

<400> 427

```

gaagaattca agttaggttt attcaaaggg cttaacgaga atcctanacc caggccccag 60
ccccggagca gcttanaga gctcctgttt gactgcccggt ctcagng 107

```

<210> 428

<211> 38

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}...{38}

<223> n = A,T,C or G

<400> 428

```

gaacttccna anaangactt tattcactat ttacatt 38

```

<210> 429

<211> 544

<212> DNA

<213> Homo sapiens

<400> 429

```

ctttgctgga oggaataaaa gtggaogcaa gcatgacctc ctgatgaggg cgtgcattt 60
attgaagagc ggtgcagccc ctgcgggtta gattaataac cgggaattgt atagacggcg 120
atatccargc actcttgaag gactttctga ttatccaca atcaaatcat cggttttcag 180
tttggatggt ggtcctcac ctgtagaacc tgacttggcc gtggctggaa tccactcgtt 240
gcttccact tcagttcac ctoactcacc atcctctcct gttggttctg tgcgtcttca 300
agatactcag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360
tgatgtgcag ttaaaatc tgccotttta tgatgtcctt gatgttctca tcaagccac 420
gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480
acctcaacaa gttagagaga tatgcctatc cagggaattt ttgccaggtg gtaggagaga 540
tcat 544

```

<210> 430

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}...{507}

<223> n = A, T, C or G

<400> 430

```

cttatcncaa tggggctccc aaacttggct gtgcagtggg aactcgggg gaattttgaa 60
gaacactgac acccatcttc cacccecgaa ctctgattta attgggctgc agtgagaaca 120
gagcatcaat tcaaaaagct gccacagaatg ttntcctggg cagcgttggt atctttgccm 180
ccttcgtgac tttatgcaat gcatcatgct atttcacacc taatgaggga gttccaggag 240
attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntc 300
caagaaggag gactgcaagt atatcgtggt ggagaagaag gacccaaaaa agacctgttc 360
tgtcagtga tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
cattctcttc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480
ttttgagcaa aaaaaa aaaaaa

```

507

<210> 431

<211> 392

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A, T, C or G

<400> 431

```

gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
aaacaagaaa gcaatttatca ggaggactta csaatggag tagactctan aaccatcact 120
tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacotaga 180
aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtccctgggt ttccaacaga 240
catcattcca gcattctgag attagggnga ttggggctca ttctggagtt ggaatgttca 300
acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
gcaatgagtc tggctttttac tctgctgttt ct

```

392

<210> 432

<211> 387

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(387)

<223> n = A, T, C or G

<400> 432

```

ggtatcctta cataatcaaa tatagetgta gtacatgttt tcaattggngt agattaccac 60
aatgcaagg caacatgtgc agatctcttg tcttattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctggna gtccagccac tngaaacat gctcccttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240
attctgttgc ttctggggca ttcccttgng atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggacoggga 360
acaacgtata gaacactgga gtccctt

```

387

<210> 433

<211> 381

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}... (281)

<223> n = A,T,C or G

<400> 433

```

ttcaactagc anagaanact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
atcgccgtgg ctattcctcn ttgntattac accagngagg ntctctgtnt gcccactggc 240
tnnaaaaccg ntatacaata atgatagaat aggaracaca c                               281

```

<210> 434

<211> 484

<212> DNA

<213> Homo sapiens

<400> 434

```

ttttaaaata agcatttagt gctcagtcce tactgagtar tctttctctc cectcctctg 60
aatttaattc ttccaacttg caatttgcaa ggattacaca ttccactgtg atgtatattg 120
tggtgcaaaa aaaaaaaagt gtctttgttt aaaattactt ggttcgtgaa tccatcttgc 180
ttttcccca ttggaactag tcattaaacc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggcgaat tggatgggtc tcagaacctt tccarccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaacc 360
tgcaccaate tgtcacatca aagtcctgtg cttgaagttt agtcagcacc cccaccaaac 420
tttaattttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 480
ttta                               484

```

<210> 435

<211> 424

<212> DNA

<213> Homo sapiens

<400> 435

```

gogccgctca gagcaggcca ctttctgoot tccaagtcct ccttcaagga agccccatgt 60
gggtagcttt caatatcgca ggtcttactt cctctgcttc tataagctca aaccacccaa 120
cgatcgggca agtaaacccc ctcctctgcc gaettcggaa ctggcgagag ttccagcgag 180
atgggctgtt ggggaggggg caagatagat gagggggagc ggcatgggtc ggggtgaccc 240
cttggagaga ggaaaaaaggc cacaagaggg ggtgccaacg ccactaacgg agatggcctt 300
ggtagagacc tttgggggtc tggaaacctt ggaactccca tgccttaact cccacactct 360
getatcagaa acttaaaactt gaggattttt tctgtttttt actcgcaata aattcagagc 420
aaac                               424

```

<210> 436

<211> 667

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}... (667)

<223> n = A,T,C or G

<400> 436

```

accttgggaa nactctcaca atataaaggg tegttagactt tactccaat tccaaaaagg 60
tcttggccc gttaactctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaaaggggg 180
cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac ctctcggggg aaacaggggt 300
gccaggtttg tcatagcaat catcaagtc cggtcacagt ctgtgcttgc aatataaacc 360

```

```

tgttcatgtt tataggactc attcaagaat ttctatatat tctttcttat atactctcca 420
agttcataat gctgctccat gccagctgg gtgagttggc caaatccctg tggccatgag 480
gattccctta tggggtcagt gggaaagggt tcaatgggac ctgggtctcc atgcccgaac 540
accaaagtoa caaaccttcaa ctccctggct agtacacttc ggtctagcca gaaaaaaagc 600
agaaaaaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
tgttgag

```

<210> 437

<211> 693

<212> DNA

<213> Homo sapiens

<400> 437

```

ctacgtctca accctcattt ttaggttaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaagggaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gttaggaggc tgataagctt ggaaggaaac tcagacagct ttttcagatc 180
ataaaagata attcttagcc catgttcttc tccagagcag acctgaastg acagcacagc 240
aggtactcct ctatcttccac cctcttgct tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatgtt tgtacagatc atggactatt ctctgtggac 360
catttctcca ggttacccta ggtgtcacta ttggggggac agccagcatt tttagctttc 420
atttgagttt ctgtctgtct ttagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaaat gctgttgcct ctgagggtgg gaaagacaga tatagagctt acagtattta 540
tctattttct aggcactgag ggtgtgggg taccctgtgg tgccaaaaca gatcctgttt 600
taaggacatg ttgtctcaga gatgtctgta actatctggg ggtctgtttg gctctttacc 660
ctgcctcatg tgcctctctg gctgaaaatg acc

```

<210> 438

<211> 360

<212> DNA

<213> Homo sapiens

<400> 438

```

ctgcttatca caatgaatgt tctcctgggc agcgttctga tctttgcac cttcgtgact 60
ttatgcaatg catcatgcta ttccatacct aatgagggag ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaa agcaactcttc aagaaggagg 180
actgcaagta tatctgggtg agagagaggc cccaaaaaag acctgtctctg ttagtgaatg 240
gataatctaa tgtgcttcta gtaggcacag ggtccocagg ccaggcctca ttctctctg 300
gcctctaata gtcataatt gtgtagccat gccatcagc aaaaagattt ttgagcaaac 360

```

<210> 439

<211> 431

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```

gttccctnnta actcctgcc aaaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttcttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgaacttgggt gtttcggcat ggagaccgaa 180
gtcccatatg cacctttccc actgacccca taaaggaaac ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatatgaaa attcttgaat gagtccata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cggggccgag 420
aathtagtag t

```

431

<210> 440
 <211> 523
 <212> DNA
 <213> Homo sapiens

<400> 440
 agagataaag cttagggtcaa agttcataga gtcccatga actatatgac tggccacaca 60
 ggatccttttg tatttaagga ttctgagatt ttgcttgagg aggatagat aaggctgttc 120
 tttaaatgtc tgaatggaa cagatttcaa aaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggcgatggg caaaaaacca atttaacct cagttccagc 240
 cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agtttctcc 300
 actggaaaac tgcctactatc tgtttttata tttctgttaa aatatttgag gctacagaa 360
 taataattaa aacctctttg tgtcccttgg tcttggaaac tttatgttcc ttttaagaa 420
 acaaaaatca aactttacag aaagatttga tgtatgtaat acatatagca gctcttgaag 480
 tatatatatc atagcaata agtcatctga tgagaacaa cta 523

<210> 441
 <211> 430
 <212> DNA
 <213> Homo sapiens

<400> 441
 gtccctccta actcctgcca gaaacagctc tctcaacat gagagctgca cccctcctcc 60
 tggccagggc agcaagcctt agccttgggt tcttgtttct gctttttttt tggctagacc 120
 gaagtgtact agccaaggag ttgaagtctg tgaacttggg gtttcggcat ggagaccgaa 180
 gtcccattga cacccttccc actgacccca taaaggaaac ctcatggcca caaggatttg 240
 gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
 gatatagaaa attcttgaac gagtccctata aacatgaaca ggtttatatt cgaagcacag 360
 acgttgaccg gactttgatg agtgcctatga caaacctggc agcccgctga cggggccgag 420
 aatttagtag 430

<210> 442
 <211> 362
 <212> DNA
 <213> Homo sapiens

<400> 442
 ctaagggaatt agtagtgttc ccataccttg tttagagtgt gctattctaa aagattttga 60
 tttcctggaa tgacaattat attttaactt tgggtggggg aagagttata ggaccacagt 120
 cttcacttct gatacttgta aattaatctt ttattgcaat tgttttgacc attaatgtat 180
 atgttttagaa atggtcattt tacggaaaaa ttagaataat tctgataata gtgcagaata 240
 aatgaattaa tgttttaactt aatttatatt gaactgtcaa tgacaataaa aaattctttt 300
 tgattatttt ttgttttcat ttaccagaat aaaaactaag aatttaasgt ttgattacag 360
 tc 362

<210> 443
 <211> 624
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 443
 tttttttttt gcaacacaa atacatcaca gtgaatgtg taatccttgc aaattgcaag 60

```

ttgaaagaat taaattcaga ggaggggaga gaaagagtag tcagtaggga ctgagcacta 120
aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
tgetggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
cccaaacac agaaaatggg gtgaatttgg ccaactttct attaatcttg cttectgttt 300
tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaatgaac 360
taacgcctac aaaacactta aacatagata acatagggtg aagtactatg tatctggtac 420
atggtaaacaa tccctattat taaagtcacac gctaaaatga atgtgtgtgc atatgctaatt 480
agtacagaga gagggcactt aaaccaacta agggcctgga ggggaagggtt cctgggaaga 540
ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggcccaat tatctsaact 600
ttgtccctat ctgctaaaca gatc 624

```

<210> 444

<211> 425

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 444

```

gcacateatt nntcttgcac tctttgagaa caagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaataag aacaagtaag 120
ttcattgcta tagcataaca caaaatttgc ataagtgggt gtcagcaaat ccttgaatgc 180
tctttaatgt gagagggttg taaaatcctt tgtgcaacac totaactccc tgaatgtttt 240
gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
cctctgcaat ctgcacactc ctgctggcag gatttgtttt tgcactctgt gaagagccaa 360
ggaggcacca gggcataagt gactagactt atggtcgacg cggccgcgaa tttagtagta 420
gtaga 425

```

<210> 445

<211> 414

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 445

```

catgtttatg nttttggatt actttgggca cctagtgttt ctaaatcgte tatcattett 60
ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
tgaaattcct tgcattgtgg agattatttg atgtagtttc ctttaactag catataaact 180
tgggtgtgtt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gattatgtaa caaataacta ttccctaacc attgatcttt 300
ggatttttat aatctactc acaaatgaat aggtctctcc tcttgtattt tgaagcagtg 360
tgggtgtctg attgatataa aaaaaaaaag tcgacgcggc cgggaattta gtag 414

```

<210> 446

<211> 631

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(631)

<223> n = A,T,C or G

<400> 446

```
acsaattaga anaaagtgc agagaacacc acataccttg tccggaacat tacaatggct 60
tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcagggtgtg 120
atgctgggtta tactggacaa cactgtgaaa aaaaggacta cagtgtttcta taagtgtgttc 180
ccggtccctgt acgatttcag tatgtctcaa cgcagctgtt gatttggaca attcagattg 240
ctgtcatctg tgtgggtgtc ctctgcatca caagggccaa actttaggta atagcattgg 300
actgagattt gtaaaacttt caaccttcca ggaaatgccc cagaagcaac agaattcaca 360
gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
taatctaaag ggagcatgtt tcacagtggc tggactaccg agagcttggg ctacacaata 480
cagtattata gacaaaagaa taagacaaaga gatctacaca tgttgccttg catttgbtgg 540
aatctacacc aatgaaaaca tgtactacag ctatatattga ttatgtatgg atatatttga 600
aatagtatac attgtcttga tgttttttct g 631
```

<210> 447

<211> 585

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}...{585}

<223> n = A,T,C or G

<400> 447

```
ccttgggaaa antntcacia tataaagggt cgttagacttt actocaaatt ccaaaaagggt 60
cctggccatg taatcctgaa agttttccca aggtagctat aaaatcccta taagggtgca 120
gcctcttctg gaattcctct gatttccaaag tctcactctc aagttcttga aaacgagggc 180
agttcctgaa aggcaggtat agcaactgat ctacagaagg aggaactgtg tgcaccggga 240
tgggctgcca gagtaggata ggattccaga tcttgacacc ttctggggga aacagggctg 300
ccaggtttgt catagcactc atcaaagtcc ggtcaaogtc tgtgcttcga atataaacct 360
gttcattgtt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccctgt ggccatgagg 480
attcctttat ggggtcagtg ggaaagggtgt caatgggact tccgtctcca tgcagaaaca 540
ccaaagtcaac aaacttcaac tccttggtca gtacacttcg gtcta 585
```

<210> 448

<211> 93

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> {1}...{93}

<223> n = A,T,C or G

<400> 448

```
tgtctgtggg tcattctgan nncgaaactg accntgccag ccctgccgan ggccnccat 60
ggctccctag tgccctggag agganggggc tag 93
```

<210> 449

<211> 706

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

```

ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnntbgc tcgtgggtca 60
ttctgancac cgaactgacc atgccagccc tgcogatggc cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtccctggaag gtggcctctg ngaggagcca 180
cggggacagc atcctgcaga tggtcgggag cgtcccatcc gccattccagg ctgaggcaact 240
gttgggaagg gcgatacggg cgggcctctt cgtattacg ccagctggcg aaagggggat 300
gtgctgcaag gcgattaagt tgggtaaagc caggggtttc ccagtcncga cgttgtaaaa 360
cgacggccag tgaattgaat ttagggtgacn ctatagaaga gctatgaagt cgcattgcacg 420
cgtacgtaag cttggatcct ctagagcggc cgcctactac tactaaatcc gcggccgcgt 480
cgacgtggga tccncaactg gagagtgagg agtgacatgt gctggacnct gtccatgaag 540
cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600
aacaggttga acctggggag tggaggttgc aatgagctga gatcaggccn ctgcncccca 660
gcctggatga cagggtgaaa ctccatctta aaaaaaaa aaaaaa 706

```

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

```

gagacggagt gtcactctgt tggccaggct ggagtgagc aagacactgt ctaagaaaaa 60
acagttttta aggttaaaac aacataaaaa gaaatatcct atagtggaaa taagagagtc 120
aatgaggctt gagaacttta caaagggatc ttacagacat gtccccaata tcaactgcattg 180
agcctaagta taagaacaac ctttggggag aaaccatcat ttgacagtga ygtacaattc 240
caagtcaggc agtgaaatgg gtggaattta actcaaatla atcctgccag ctgaaacgca 300
agagacactg tcagagagtt aaaaagtgag ttatatccat gaggtgatcc cacagtcttc 360
tcaagtcaac acatctgtga actcacagac caagttctta aaccactgtc caaactctgc 420
taccatccag aatcacctgg agagctttac aaactcccat tgcggagggc cgacgggggc 480
gcgaatttag tag 493

```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...{501}

<223> n = A,T,C or G

<400> 451

```

gggcgcgctcc cattcgccat tcaggctgag caactgttgg gaagggcgat cggtgogggc 60
ctcttcgcta ttacgcccag tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120
aacgccaggg ttttcccagt cncgacgttg taacacgacg gccagtgaat tgaatttagg 180
tgaactata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240
gcggccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300
tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360
cgcnccagac actcacagct actcaggagg ctgagaacag gttgaacctg ggaggtggag 420
gttgcaatga gctgagatca ggccnctgcn cccagcagat gatgacagag tgaactcca 480
tcttaaaaaa aaaaaa a
501

```

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(51)
 <223> n = A,T,C or G

<400> 452
 agacgggttt acccttacc aa cnccttttag gatgggnmtt ggggagcaag c 51

<210> 453
 <211> 317
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(317)
 <223> n = A,T,C or G

<400> 453
 tacatcttgc ttttttcccc ttggaactag tcattaaccc atctctgaac tggtagasaa 60
 acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaaccat 120
 ttaccacana cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca 180
 taacaaaccc tgcctcaatc tgtcaactaa aagtcctgtg cttagaagttt antcagcacc 240
 cccaccaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataagg 300
 taccatgtc tttatta 317

<210> 454
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 454
 ttcgaggtag aatcaactct cagagtgtag ttctcttcta tagatgagtc agcattaata 60
 taagccacgc cagcctcttg aaggagttct gaattctctt ctgctcactc agtagaacca 120
 agaagaccaa attctctctg atcccagctt gcaaacnaaa ttgttctctt aggtctccac 180
 ccttctcttt tcaagtgttc aaagctcttc acaatttcat gaacaaacagc t 231

<210> 455
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 455
 taccaaagag ggcataataa tcagtctcac agtaggggtc accatcctcc aagtgaaaaa 60
 cattgttccg aatgggtctt ccacaggcta cacacacaaa acaggaaaca tgccaagttt 120
 gtttcaacgc attgatgact tctccaagga tcttcttctg gcctcgacca cattcagggg 180
 caaagaattt ctcatagcac agctcacaat acagggtctc tttctctct a 231

<210> 456
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 456
 ttggcaggtt cctttacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60
 ttccattcag tattatcggt attattcttg gagaaacct gtctgtttac tgtaaccttt 120
 tgcactcaaa ttcctttatc aggaataact acatagccac tatttacaaa gccattggaa 180

ccctttctatt tgggtgcagct gctagtcagt cctgactga cattgccaaag t 231

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(231)

<223> n = A,T,C or G

<400> 457

cgagggtaccc aggggtctga aaatctctnn tttantagtc gatagraaaa ttgttcatca 60
gcattcotta atatgatctt gctataatta gattttcttc cattagagtt catcacgttt 120
tatttgattt cattagcaat ctctttcaga agaccttga gatcattaag ctttgatcc 180
agttgtctaa atcgatgccc catttccctt gaggtgtcgc tggtttttgt g 231

<210> 458

<211> 231

<212> DNA

<213> Homo sapiens

<400> 458

aggtcttggt ccccccaett ccactccct ctactcttc taggactggg ctgggccaaag 60
agaagagggg tggttaggga agccgttgag acctgaagcc ccacctcta ctttccttca 120
acacctaac cttgggtaac agcatttggg attatcatt gggatgagta gaatttccaa 180
ggctcctgggt taggcatttt ggggggccag accccaggag aagaagattc t 231

<210> 459

<211> 231

<212> DNA

<213> Homo sapiens

<400> 459

ggtaccgagg ctgcctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca 60
ccttcgogaa acctgttggt gccaccagt cctaacggga caggacagag agacagagca 120
gccttgcaat gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460

<211> 231

<212> DNA

<213> Homo sapiens

<400> 460

gcagggtataa catgctgcaa caacagatgt gaactaggaa ggcgggtgac atggggaggg 60
cctatcacc cttcttggg ggcctgttct tcacagtgat catgaagcct agcagcaaat 120
ccacctccc cacacgraca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180
gtggagcttg gtccagctc cagtcacccc ctaccaggct taaggataga a 231

<210> 461

<211> 231

<212> DNA

<213> Homo sapiens

<400> 461

cgagggttga gaagctctaa tgtgcagggg agccgagaag caggcgccct agggagggtc 60

```

gogtgtgtctc cagaagagtg tgtgcatgcc agaggggaaa caggcgccctg tgtgtccctgg 120
gtgggggttca gtgaggagtg ggaatttggg tcagcagcac caagccgttg ggtgaataag 180
agggggatttc catggcactg atagagccct atagtctcag agctgggaat t 231

```

```

<210> 462
<211> 231
<212> DNA
<213> Homo sapiens

```

```

<400> 462
aggtaaccctc atbgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
gggtcatgca agtataaaaa ttaaaaaaaa aagacttcat gcccaatctc atatgatgtg 120
gaagaactgt tagagagacc aacggggtag tgggttagag atttcagag tcttacattt 180
tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231

```

```

<210> 463
<211> 231
<212> DNA
<213> Homo sapiens

```

```

<400> 463
tactccagcc tgggtgacaga gogagaccct atcacccccc occaaccac caaaaaanaa 60
actgagtaga cagggtgtcc ctctggcatgg taagtcttaa gtcccctccc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtg gaaaaggcag 180
tggggaggtg gatcttccag tcgaagcggg atagaagccc gtgtgaaaag c 231

```

```

<210> 464
<211> 231
<212> DNA
<213> Homo sapiens

```

```

<400> 464
gtactctaag attttatcta agtbgccttt totgggtggg aaagtctaac cttagtgact 60
aaggacatca catatgaaga atgttctagt tggaggtggc aacgtgaatt gcaaacaggg 120
cctgtctcag tgaactgttg cctgtagtc cagctactcg ggaagtctgtg tsaggccagg 180
ggtgccagcg caccagctag atgtcttcta acttctaggc cccattttcc c 231

```

```

<210> 465
<211> 231
<212> DNA
<213> Homo sapiens

```

```

<400> 465
catgttgttg tagctgtggg aatgctggct gcctctcaga cagggttaac ttcagctcct 60
gtggcaaatt agcaacaaat totgacatca tatttatggg ttctgtatct ttgttgatga 120
aggatggcac aatttttggc tgtgttcata atatactcag attagtccag ctccatcaga 180
taactggag acatgcagga cattagggta gtgtgttagc tctgtaatg a 231

```

```

<210> 466
<211> 231
<212> DNA
<213> Homo sapiens

```

```

<400> 466
caggtaacctc tttccatttg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaaccttg cacataccca ggtataatag ttctacat ttgccagga 120
cctgtgcaat caaatattgt ggagaattcc ctagtggag aagtcacaaa gactataggc 180
ataatggag accagterca caagatgaca accagtcgtt gtgtgcggct g 231

```

<210> 467
 <211> 311
 <212> DNA
 <213> Homo sapiens

<400> 467
 gtacaccctg scacagteca atctgaactg gttcggcact catctttcat gagatggatg 60
 tgggtggcttt tctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac 120
 tgtgccttaa cagaaggctc tgagattcta agtgggaatc atttcagtga ctgtcatgtg 180
 gcattgggtct ctgcccaggc tctgaatgag actatagcaa ggcggctgtg ggaagtcagt 240
 tgtgacctgc tgggcctccc aatagactaa caggcagtcg cagttggacc caagagaaga 300
 ctgcagcaga c 311

<210> 468
 <211> 3112
 <212> DNA
 <213> Homo sapiens

<400> 468
 catttgtgtg ggagaaaaac agaggggaga tttgtgtggc tgcagccgag ggagaccagg 60
 aagatctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattcaaggc 120
 tgggaaggcac tggatgcctg atgatgaagt ggactttcaa actggggcac tactgaaacg 180
 atgggatggc cagagacaca gggatgagt tggagcaagc tcaataacaa agtgggttcaa 240
 cgaggacttg gaattgcatg gagctggagc tgaagttagt cccaattggt tactagttag 300
 gtgaattgtg ctgattggat gatcatttct catctctgag cctcagggtc cccatccata 360
 aatggggata cacagtatga tctataaagt gggatatagt atgatchact tcaactgggtt 420
 atttgaaggga tgaattgaga taatttatatt caggtgccta gaacaatgac cagattagta 480
 catttgtgtg aactgagaaa tggcataaca ccaaatttaa tatatgtcag atgttactat 540
 gatttatcct caatctcata gttttgtcat gggccaatct atcctcaact gtgcctcaac 600
 aaattgaact gttaacaaag gaatctctcg tccctgggtaa tggctgagca ccaactgagca 660
 ttcccatctc agttggcttc ttgggtttgc tagctgcac cactagtcac ttaataaatt 720
 gaagctttta catttctcca gtgatttttt ttctcacc cttgaagatac tatgttatgt 780
 gattaaataa agaaacttgg agaaacaggt ttcatataac ataaatcaa tgtagacgca 840
 aattttcttg atggcaata cttatgttca caggaaatgc tttaaatat gcagaagata 900
 attaaatggc aatggacaaa gtgaaaaact tagacttttt tttttttttt ggaagtatct 960
 gbatgttctc tagtcaacta aaggagaact gaaaaatagc agtgagttcc acataatcca 1020
 acctgtgaga ttaaggctct ttgtggggaa ggacaaagat ctgtaaattt acagtttctc 1080
 tccaaagcca acgtcgaatt ttgaaacata tcaaagctct tcttcaagac aaataatcta 1140
 tagtacatct ttcttatggg atgcacttat gaaaaatggg ggctgtcaac atctagtcac 1200
 tttagctctc aaatgggttc attttaagag aaggttttag atctcctat ttattcctgt 1260
 ggaaggacag cattgtggct tggactttat aaggtcttta ttcaactaaa taggtgagaa 1320
 ataagaaaag ctgctgactt taccatctga ggcacacat ctgctgaaat ggagataatt 1380
 aacatcacta gaaacagcaa gatgacaata taatgtctaa gtatgacat gtttttgcac 1440
 atttccagcc cctttaata tccacacaca caggaaagac aaaaaggagc acagagatcc 1500
 ctgggagaaa tgcctggccg ccatcttggg tcatcgatga gctcgcctct gtgctgggtc 1560
 ccgcttgtga gggaaggaca ttagaaaatg aattgatgtg ttccttaag agtgggcagg 1620
 aaaacagatc ctgttgttga tatttatatt aacgggatta cagatttgaa atgaagtcac 1680
 aaagttagca ttaccaatga gaggaaaaca gacgagaaaa tcttgatggc ttcaaaagac 1740
 atgcaacaaa caaaatggaa tactgtgatg acatgagga gccaagctgg ggaggagata 1800
 accacggggc agaggggtcag gattctggcc ctgctgcta aactgtgctg tcatatacaa 1860
 atcatttcat atttctaacc ctcaaaacaa agctgttcta atatctgata tctacgggtc 1920
 ctctctgggc caacattctc catatatcca gccacactca ttttcaatat ttagttccca 1980
 gatctgtact gtgacctttc taccactgtg aataacatta ctcattttgt tcaaaagacc 2040
 ttogtgttgc tgcctaatat gttagctgact gtttttctta aggagtgttc tggcccaggg 2100
 gatctgtgaa caggctggga agcatctcaa gatctttcca gggttatact tactagcaca 2160
 cagcatgac attacggagt gaattatcta atcaacatca tctcagtggt ctttggccat 2220
 actgaaattc atttccact tttgtgcccc ttctcaagac ctcaaatgt cattccatta 2280

```

atatcacagg attaactttt ttttttaacc tggagaagt caatgttaca tgcagctatg 2340
ggaaatttaac tacatatttt gttttccagt gcaaaagatga ctaagtcctt tatccctccc 2400
ctttgtttga ttttttttcc agtataaagt taaaatgctt agccttgtaa tgaggctgta 2460
tacagccaca gctctctccc atccctccag ccttatctgt catcaccatc aaccctctcc 2520
atgcacctaa acaaaatcta acttgtaatt ccttgaacat gtcaggcata cattattcct 2580
tctgcttgag aagctcttcc ttgtctctta aactatgaat gatgtaaagt tttgaataag 2640
ttgactatct tacttcatgc aaagaaggga cacatatgag attcatcatc acatgagaca 2700
gcaataacta aaagtgtaat ttgattataa gagttttagat aaatatatga aatgcaagag 2760
ccacagaggg aatgtttatg gggcacgttt gtaagcctgg gatgtgaagc aaaggcaggg 2820
aacctcatag tatcttatac aatatacttc atttctctat ctctatcaca atatccaaca 2880
agcttttccac agaattcatg cagtgcacaa ccccaagggt aacctttatc catttcatgg 2940
tgagtgcgct ttageatttt ggcaaatcat actggctcact tatctcaact ttgagatgtg 3000
tttgtccttg tagttaattg aaagaaatag ggcactcttg tgagccactt taggyttcac 3060
tcttggcaat aaagaattta caaagagcaa aaaaaaaaaa aaaaaaaaaa aa 3112

```

<210> 459

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 459

```

agctctttgt aaattcttta ttgccaggag tgaaccttaa agtggctcac aagagtgcac 60
tattcttttc aattaaactac aaggacaaac acatctcaaa gttgagataa gtagccagta 120
tgatttgccr aatttctaaa gcgcactcac catgaatggg ataaaggtta cctttgggga 180
tttgcaactgc atgaattctg tgaaaagctt gttggatatt gtgatagaga tagagaaatg 240
aagtatatta tataagatac tatgagggtc cttgcttttg cttcacatcc caggcttaca 300
aacgtgcctcc ataaacattc cctctgtggc ttttgcatte catatattta tctaaactct 360
tataatcaaa tacactttta gtatttgcct tctcatgtga tgatgaatct catatgtgtc 420
ccttcttttg atgaagtaag atagtcacat tattcaaaac ttacatcatc tctagattta 480
agagacaaag aagagcttct caggcagaag gaataatgta tgcttgacat gttcaaggaa 540
ttacaagtta gattttggtt aggtgcattg gagggggtga tgggtgatgac agataaggct 600
ggagggatgg ggagaggctg tggctgtata cagctcagat acaaggctaa gcattttaac 660
tttatactgg aaaaaaaatc aaacaaaggg gaggyataaa ggacttagtc atctttgcac 720
tggaaaaaaa aatatgtaat taaatcccca tagctgcatt taacattgaa ttcttccagg 780
ttaaaaaaaaa agttaatcct gtgatattaa tggaaatgaca ttttgagggtc ttgagaatgg 840
gcacaaaagt gggaaatgaa ttccagtatg ggcaagaca ctgaggatga tgttgattag 900
ataattcact ccgtaatgat catgctgtgt gctagttaag ataaccttgg aaagatcttg 960
agatgccttc cagcctgttc acagatcccc tgggcccaga cactccttag gaaaaacagt 1020
cagctacata ttaggcagca acacgaaggg cttttgaaca aatgagtaa tgttatctta 1080
cagtgtagaa aggtcacagt acagatctgg gaactaaata ttaaaaatga gtgtggcttg 1140
atatatggag aatgttgggc ccagaaggaa ccgtagagat cagatattac acragctttg 1200
ttttgagggt tagaaatatg aaatgatttg gttatgaacg cacagtctag gcagcagggc 1260
cagaatcctg aacctctgcc ccgtggttat ctctcccca gcttggctgc ctcatgtcat 1320
cacagtatcc catttttgttt gttgcattgt ttgtgaagcc atcaagattt tcttgtctgt 1380
tttctctcca ttggtaattg tcacttttgt acttcatttc aatctgttaa tcccggttca 1440
ataaatatcc acaacaggat ctgttttctt gccatcctt taaggaaacac atcaattcat 1500
tttctaattg ccttccctca caagcgggac caggcacagg gcgaggctca tccatgtgtg 1560
aagatggcgg ccgggcattt ctcccaggga tctctgtgct tcttcttggt tccctgtgtg 1620
gtgtggatat tttaaaggggc tggaaatgtg caaaaacatg tcaactacta gacattatat 1680
tgtcatcttg ctgtttctag tgatgttaac tatctccatt tcagcagatg tgtggcctca 1740
gatggtaaaq tcagcagcct ttcttatttc tccctggaa atacatacga ccatttgagg 1800
agacaaatgg caagggtgtc gcataccctg aacttgagtt gagagctaca cacaattatta 1860
ttggtttccg agcatcaca acacctctc tgtttcttca ctgggcacag aattttaata 1920
ctattttcag tgggctgttg gcaggaacaa atgaagcaat ctacataaag tcaactagtgc 1980
agtgcctgac acacacattc ctcttgaggt cccctctaga gatccacag gtcataatgc 2040
ttcttgggga ccagtggctc acacctgtaa tcccagcact ttgggaggct gaggcaggtg 2100
ggtcacctga ggtcaggagt tcaagaccag cctggccaat atggtgaaac cccatctcta 2160
ctaaaaatcc aaaaatttag tgggcgtgct ggtgcattgc tgaatccca gccccaacac 2220

```

aatggaatt

2229

<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

```

gtaaaattctt cattgccagg agtgaaccct aaagtggctc acaagagtgc cctattttctt 60
tcaatttaact acaaggacaa acacatctca Aagttgagat aagtgacoag tatgatttgc 120
caaaattctta aagcgcactc accatgaaat ggataaaggc taactttggg gattttgcact 180
gcatgaattc tgtgaaaagc ttgttgagata ttgtgataga gatagagaaa tgaagtatat 240
tatataagat actatgaggt tccctgcctt tgccttcacat cccaggctta caaacgtgcr 300
ccataaacat tccctctgtg gctccttgcct ttcatatatt tatctaaact cttataatca 360
aattacactt ttagtattctg ctgtctcatg tcatgatgaa tctcatatgt gtcccttctt 420
tgcattgaagt aagatagtc aattattcaa aactttaaat cattctagat ttaagagaca 480
aggaagagct tctcaggcag aaggaataat gtatgcctga catgttcaag gaattacaag 540
ttagattttg tttaggtgca tgggaggggc tgatgggtgat gacagataag gctggaggga 600
tggggagagg ctgtggctgt atacagcctc agtacaaggc taagcatttt aactttatac 660
tggaaaaaaa atcaaacaaa ggggagggat aaaggactta gtcattcttg cactggaaaa 720
caaaatatgt aattaaattc ccatagctgc atgtaacatt gaattcttcc aggttaaaaa 780
aaaaagttaa tccgttgata ttaattggaat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaaa gacactgagg atgatgttga ttagataatt 900
cactccgtaa tgatcatgt gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960
ttcccagcct gtccacagat cccctgggac agaacactcc ttaggaaaaa cagtcagcta 1020
catattaggc agcaaacaga aggtctcttg aacaaaatga gtaactgtat tctacagbgt 1080
agaaagggtc cagtacagat ctgggaacta aatattaaaa atgagtgttg ctggatatat 1140
ggagaatggt gggccacaga ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttagaaa tatgaaatga ttgtgttatg aaogcacagt ttaggcagca gggccagaat 1260
cctgacccctc tgcaccgttg ttatctctct cccagcttgg ctgcctcatg tcatcacagt 1320
actccatttt gtttgtttga tgtottgtga agccatcaag attttctcgt ctgttttctt 1380
ctcatttggt atgctcactt tgtgaactca ttcaaatct gtaatccctg tcaaatatat 1440
atccacaaca ggaatctgtt tcttgcccat ccttcaaggc acacatcaat tcattttcta 1500
atgtccttcc ctcaacaagc ggaaccaggc cagggcgagg ctcatcgatg acccaagatg 1560
ggggccggggc atttctccca gggatctctg tgcctccttt tgtgcttctt gtgtgtgtgg 1620
atatttcaag gggctggaaa tgtgcaaaaa catgtcacta cttagacatt atattgtcat 1680
cttgctgttt ctagtgatgt taattatctc catttcagca gatgtgtggt ctcagatbgt 1740
aaagttagca gccctttctt ttctccacct ggaataacat acgaccattt gaggagacaa 1800
atggcaagggt gtcagcatat cctgaacttg agttgagagc tacacacaaat attattggtt 1860
tccagcctc acaaacaccc tctctgtttc ttcaactggc acagaatttt aatacttatt 1920
tcagtgggtc gttggcaggc acaaatgaag caatctacat aaagtcaata gtgcagtgcc 1980
tgacacacac catctctctg aggtccctcc tagagatccc acaggtcata tgacttcttg 2040
gggagcagtg gctcacacct gtaatcccag caotttggga ggctgaggca ggtgggtcac 2100
ctgaggtcag gagtccaaga ccagcctggc caatatgggt aaacccccat tctactaaaa 2160
atcacaaaat tagctgggcy tgcctgtgat tgcctgtaat cccagctact tgggagggtg 2220
aggcaggaga attgctggaa catgggaggc ggaggttgca gtgagctgta attgtgccat 2280
tgcactcgaa cctgggcgac agagtggaa tctgtttcca aaaaacaaac aaacaaaaaa 2340
ggcatagtc gatacaacgt gggggggatg tgtaaataga agcaggatat aaagggcatg 2400
gggtgaoggt tttgcccac acaatg 2426

```

<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

```

gaacaaatag agtaatgtta ttctacagtg tagaaaggct acagtacaga tctgggaact 60
aaatattaaa aatgagtgtg gctggatata tggagaatgt tgggcccaga aggaaccgta 120

```

```

gagatcagat attacaacag ctttgttttg aggggttagaa atatgaantg atttgggttat 180
gaacycacag tttagycagc aggggcagaa tcttgacct ctgcccgtg gttatctcct 240
ccccagcttg gctgcctcat gtcacacag tatccattt tgtttgttgc atgtcttggt 300
aagccatcaa gattttctog tctgttttcc tctcattggt aatgctcact ttgtgacctc 360
atttcaaatc tgyaatcccg ttcaaataaa tatecaaac aggatctggt ttcttgacca 420
tcttttaagg aacacatcaa ttcatTTTT aatgtcttc cctcacagc gggaccagge 480
acagggcgag gctcatcgat gacccaagat ggcggcggg catttctccc agggatctct 540
gtgcttccct ttgtgcttcc tgtgtgtgtg gatatttaaa ggggctggaa atgtgcaaaa 600
acatgtcact acctagacat tatattgtca tcttgctggt tctagtgatg ttaattatct 660
ccatttcagc agatgtgttg cctcagatgg taagtccgc agcttctctt atttctcacc 720
tctgtatcat caggtcttcc ccacatgca gatctcttg gctcctctg gctgcagcca 780
cacaaatctc cctctgttt ttctgatgcc ag

```

<210> 472

<211> 515

<213> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(515)

<223> n = A,T,C or G

<400> 472

```

acggagactt atttctgat attgtctgca tatgtatggt tttaaagagtc tggaaatagt 60
cttatgactt tctatcctg cttatataa aataatagc cccagagaag atgaaaatgg 120
gttccagaat tattggtcct tgcagcccg tgaatctcag caagaggaa ccccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaa cctcogatcg aagaacgtaa 240
agtagaagggt gattgcccag aaatggatct ggaaaagact cggagtggagc gtggagatgg 300
ctctgatgta aaagagagga ctccacctaa tcccaagcat gctaagacta aagaagcagg 360
agatgggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420
cattgaaaaa gtgactgaaa atttgaaaat tctctcaata aagttctgagt tttctctgaa 480
gaaaaaaanaa naaanaaaana aanaaaanaa aanaa

```

<210> 473

<211> 5829

<212> DNA

<213> Homo sapiens

<400> 473

```

cgcctgcggg ggaagcccaa gctggctcga agagccacca gccacctgtg caaggggtggg 60
cctggaccag ttggaccagc caccagctc acctactcaa ggaagcaggg atggccagggt 120
tgcaacagcc tgagtggctg ccacctgata gctgatggag cagaggcctg aggaaaatca 180
gatggcacat ttagctcttt aatggatctt aagttaattt ttctataaag cacatggcac 240
cagtcctatg ctcagagctc gtatggcact gcggaccaca gcaggccgag tcccaggat 300
tgccatccag gggggccttc tgtagccctg gccagacctt gcagagggtg ctgggtgctc 360
tttgagcgag ctggccctcc ctggcatgca caggcccagc gtactgacac gctgctctga 420
gtgagcttgt cctgcttgg ctgccaccta actgctgatg gagcagcggc cttaggaaaa 480
gcaaatggcg ctgtagccca agaagaagat gtacctgtc oggcccgtag 540
ttggtgactg gtgcacctgc tctggcgta ccttgcaga ggtgggtggt tgcctcttgg 600
ccagcttggc cttgcctggc atgcacaagc ctcaagtcaa caactgtctt acaaatggag 660
acacagagag gaacacaagc gggggctcag gagcagggtg tgtgctgctt ttggggctcc 720
agttccatgcc tgggtcgta tggctactga ggcttcttgg ttgccaaagag gcggaccaca 780
ggccttcttg aggaggactt taogttcaag tgcagaaagc agccaaaatt accatccatg 840
agactaagcc ttctgtggcc ctggcgagac ttaaaatttg tgccaaggca ggacaagctc 900
actoggagca gctgtcagt agctggggcc tatgcatgcc gggcagggcc gggctggctg 960
aaggagcaac cagccacctc tgcaagggtg cgcctagtgc aggcggagca tccacacct 1020
caccgctcg aggaagtggg gatggccagg tccccacagc ctgagtgtct gccaccttat 1080

```

tgctgatgga	gcagaggcct	taaganaagc	agatggcact	gtggccctac	ctttagggtg	1140
gaagaagtga	tgtacatgtc	cggacgctaa	ttgggtgactg	gtacacccggc	tcctgctaca	1200
cctttgcaga	gggtggctgg	tgctccttga	gccagcttgt	ccttgcccg	catgcacaag	1260
tttcagtgca	acaaactttgc	cacaaatgga	gccatataga	ggaaacaaga	agcagggttca	1320
ggagaagggt	gtacccctgcc	tttggggctc	cagtcocatgc	ctcagggtgtc	acatggcact	1380
gogggcttct	tgggttgccag	gagggcgacc	acaggccatc	ttggggaggga	ctttgtgttc	1440
aagtgcagaa	agcagccagg	attgccatcc	agggggacct	tcctatagccc	tggccaaaac	1500
ttgcaggggt	gtcttggttgc	tcctttgagcc	ggcttgacct	ccttgccatg	caaggggccc	1560
agggtgctggc	acgctgctcc	gagtgtgctt	gtcctgcctt	ggctggccac	tctgcccggg	1620
tgcgtctgga	gggggtggac	ogggccacca	ccttaccocag	tcaagggaagt	ggatggccat	1680
gttcccacag	cctgagtggc	tgccacctga	tggctgatgg	agcaaaaggcc	ttaggaaaag	1740
cagatggccc	ttggccctac	ctttttgtta	gaagaaactga	tgctccatgt	cctgcagoga	1800
gtgagggtgg	tggctgtgcc	cccagctcct	ggcgcgccct	cgcagagggtg	actggttgct	1860
ctttggggccc	tccttgacctt	ggccagcatg	cacaagcctc	agtgtactta	ctgtgctaca	1920
aatggagcca	tataggggaa	acgagcagcc	atctcaggag	caagggtgtat	gtgcctcttg	1980
ggggctccag	tccttgccctc	aagggtcctt	tgctacatgtg	ggcttctctg	ttgtcaagag	2040
gcagaccata	ggcctgtcttg	agagggactt	tatgttcaag	tgcagaaagc	agccaggatt	2100
gccacccctcg	ggactctggc	ttctgtggcc	ctggccaaac	ttagaatttg	gcogtagaca	2160
ggacaggctc	acttggagta	gogtgtccgt	agctggggtc	tgtgcatgcc	gggcaaggcc	2220
gggtctggctc	ggggagcaac	cagccacctc	tcgggggggtg	cgcctggagc	aggctggagca	2280
gccaccagct	cacccactcc	aggaagccgg	ggtagccagg	ttcccaaggc	ctgagtgggt	2340
gccacctaat	ggctgaagaa	acagaggccct	tgggaaaacc	agatggcact	gtggccctac	2400
ctttatggta	gaagagctga	tttagccctga	ctggcagcgt	gtgggttgg	tggctggctc	2460
gcctgtctgt	gggcacatccg	tgcaaggatg	gctggttgnc	ctttgagcca	gttctgcccct	2520
gcccggcatg	cgcaggcctc	agtgcacaaa	ctgtgctgca	aatggggcca	tatagaggaa	2580
aggagcagct	ggctctggag	catgggtgtgc	actcccttg	ggccttcagt	ccatgtctca	2640
tgggtcgtat	gacactgcgg	gcttgttgg	tgccaaaggc	cagaccacag	gtcatcttga	2700
ggaggacttt	atgttccagt	ccagaaagca	gccagtggta	ccaccagggt	gaattgtgct	2760
tctgtgcccc	ggccagacgt	agaatttgac	aaagtccagg	cgtctctcagt	cagagcggcg	2820
tgtogggtccc	cggggccctgt	gcattgccggg	caggcccggt	ctggcttggg	gagcaagcag	2880
ccacctctgt	taagggtgtg	cctgggagcag	gtggagcagc	cacccaacctc	acgcaactga	2940
agaagcagggt	atggccaggt	tcacacatcc	tgagtggctg	ccacctgatg	gctgatggag	3000
ragaggccctg	aggaaaagca	gatggccactg	ctttgtagtg	ctgttctctg	tcctctcttga	3060
tcctttctcag	ttaatgtctg	ctttcatcaga	gactaggatt	gcaaaccttg	ctcttttttg	3120
ctttccattt	gcttggtaaa	tatccctcca	cccccttatt	ttaagcctat	gtgtgctctt	3180
gcacatgaga	tgggtctcct	gaatacagga	caacaatggg	tctttaactc	ttatcccaact	3240
tgccagtctg	tgtctttttaa	ctggggccatt	tagcccatct	acatttaagt	ttagtattgt	3300
tacatgtgaa	atttatctctg	tcattgatgtt	gctagctctt	tatctttccc	attagtttgc	3360
agtttcttla	tagtgtcaat	ggtctttaca	attcgatattg	tttttgtagt	ggctgggtact	3420
ggtttttcct	ttctacgttt	agtgtctcct	tcaggagctc	ctgtaacaca	agaatgtgga	3480
ttcatttctt	gtaaggtaaa	tatgtggatt	tattctcttg	gactgtattc	tatggccctt	3540
accccagaa	tcatttactt	ttaaaaatgca	attcaaatga	gcataaaaaca	tttccagcct	3600
atggaaaggc	ttgtggcatt	agaatccctta	tttataggat	tattttgtgt	ttttttgaga	3660
tatggctctt	gtcatcgagg	cagaagtggc	gtggtttgat	cataattcac	cacagccctg	3720
aactcttgag	tcacagccat	ccttttgcc	taactctcca	accagctgga	tctgcaggca	3780
taaggcatcc	tgcgtggcta	attttttcac	gttttttttt	tttttttgtc	gagattatgg	3840
tgtcacctgtg	ttgctctggc	tgatctcaaa	tgcttgacct	caagggtatc	ttctgccagg	3900
gctctctaaa	gtgctaggat	tatatgcattg	atacaccatg	cctatttgtag	agtattacat	3960
tattttcaaa	gtcttattgt	aagagccatt	tattgccttt	ggcctaaata	actcaatata	4020
atatctctga	aactttttt	tgacaaattt	tgggggctga	tgatgagaga	aggggggttg	4080
aaactttcta	ataagagtta	acttagagcc	atttaagaaa	ggaaaaaaca	caatttatca	4140
gaaaaacanc	agtaagatca	agtgcaaaaag	ttctgtggca	aagatgatga	gagttaagaa	4200
tatatgtttg	tgaactcatgg	tggctttttaa	ttgttctctg	aatttctcag	tcgggtttaa	4260
catttaaaaga	atctacatta	tagataacac	tttattgcaa	gtaaatgtat	ttcaaaattc	4320
gttattgggt	ttgtatgaga	ttattctcag	cctacttcat	tatcaagcta	tattatttta	4380
ttaatgtagt	tcgatgatct	tacagcaag	ctgaaagctg	tattttcaaa	atatgtctat	4440
ttgactaaaa	agttattcaa	caggagttat	tatctatata	aaaaatacaa	cagggaatata	4500
aaaaacttga	ggatanaaag	atgttggaaa	aagtaactatt	aaactcttaa	aaacatatgg	4560

aaactacaca	atgggtgaaga	cacattgggtg	aagtacaaaa	atataaattg	gatctagaag	4620
aaagggcaat	gcaggcaata	gaaaaattag	tagaaatccc	tttaaaaggtt	agtctgtaxa	4680
atcaggtaag	tttatttata	atttgctttc	atttatttca	ctgcaaatla	tattttggat	4740
atgtatatat	attgtgcttc	ctctgctgt	cttacagcaa	tttgcttgc	agagttctag	4800
gaaaaaggtg	gcattgtgtt	ttactttcaa	aatattttaa	tttccatcat	tataacaaaa	4860
tcaatttttc	agagtaattg	ttctcactgt	ggagtcatte	gattattaag	accogttggc	4920
ataagattac	atcctctgac	tataaapaac	ctggaagaaa	acctaggaaa	tattcgtctg	4980
gacattgcac	ttggcaatga	atttatgggt	aacctctgat	ccacttccag	tcactatcca	5040
tgagtcttta	tttccagata	catgaaatca	tatgagttga	aactttcttt	tgattgagca	5100
gtttggaaac	cgctcttttg	tagaatctgc	aagtggatat	ttggaacctt	ttgaggccca	5160
tgctgaaaaa	agaaatatct	tcactacatg	atgaccacca	gcagcagctg	gggaaaccag	5220
cacctgtgtg	aattccctac	gggtgcatag	atacatcttc	cttccagtcg	gcttgggtca	5280
acctagggtc	tgggccacct	ggctgtagac	agtttccaca	gaaatgcttc	aagatgaaag	5340
tggatgaccg	ggccaccctc	cacctctgac	ctgtaagacc	atgggaacaca	caggccacca	5400
gtctctttca	tgtggtcacc	ccctgttaga	tgggagaaaa	tacacctgac	tcatttttgt	5460
accttctgtg	tgaacatttc	acggcagact	gtcgctaaat	gtggatgaag	aattgaaatg	5520
atgaatgaat	atgagagaaa	atgaataaat	ggttcagatc	ctgggctgga	aggctgtgta	5580
tgaggatggt	gggttagagga	gggtctgttt	ttcttgcttc	taagtcaacta	attgtcaactt	5640
tggggcggga	gcacaggctt	tgaatgcaga	ccgactggac	tttaattctg	gctttactag	5700
ttgtgattgt	gtgaccttgt	gaaagttact	taaacctctc	gtgctgtgtt	ctttatctgt	5760
aaaatggaga	caacaagatg	tcaaaggact	gtggtaaaga	ttaaatgctt	taaaaaaaaa	5820
aaaaaaaaaa						5829

<210> 474

<211> 1594

<212> DNA

<213> Homo sapiens

<400> 474

atttatggat	cattaatgac	totttagtag	tttagagaaa	acgtcaaaag	aatggccccc	60
agaataagct	tcttgatttg	taaaattctc	tgctcattggc	tcaaatttgt	atagtatctc	120
aaaatataaa	tatatagaca	tctcagataa	tataattgaa	atagcaaat	ccgtttagaa	180
aataatagta	cttaactaga	tgagaataac	aggtcgccat	tatttgaatt	gtctccctatt	240
cgtttttcat	ttgttgtgtt	actcatggtt	tacttatgag	ggatataat	aacttccact	300
gtttttcagaa	ttattgtatg	cagtcagtat	gagaatgcaa	tttaagtttc	cttgatgctt	360
tttccacctt	ctattactag	aaataagaat	acagtaatat	tggcaaagaa	aattgaccag	420
ttcaatataaa	tttttttagta	aatctgattg	aaaataaaac	ttgcttatgg	ctttcttaca	480
tcaatattgt	tatgtcctag	acaccttata	tgaattacg	gttcaaaat	tctaattatg	540
tgc aaatgtg	taaaatatca	atacttttatg	ttcaagctgg	ggcctcttca	ggcgtccctgg	600
gctgagagag	aaagatgcta	gctcogcaag	cgggagaggg	aacacgcgca	cattgtttaca	660
cggacacacc	gccacgtgga	caaatgacca	gactcacatg	tacagacaca	cggagacatt	720
accacatgga	gacaccgtca	cacagtcaca	cggacacact	ggcatagtca	catggacggga	780
cacacagaca	tatggagaaa	tcacatggac	acacacccac	actatcacag	ggacacagac	840
acacggagac	atcaccacat	ggacacactg	tcacactacc	acagggacac	gagacatcac	900
actgtcacat	ggacacacaa	tcacacacat	gaacacaccc	acacactgac	atatggacac	960
tggcacacac	actgccacac	tgtaacatgg	acacacctcc	acacacacac	acacacacac	1020
acactgcctg	tggacacaa	garacacaga	cactgtcaca	cagatacaca	aaacactgtc	1080
acacggagac	atcaccatgc	agatacacca	ccactctggt	gocgtctgaa	ttacctgtct	1140
gggggggacag	cagtggcata	ctcatgccta	agtgactggc	tttcaaccca	gtagtgtattg	1200
ccctccatca	acactgcccc	ccccagggtg	gggtatcccc	agcccatctt	tacaaaacag	1260
ggcaagggtga	actaatggag	tgggtggagg	agttggaaaga	aatcccagcg	tcagtccacg	1320
ggatagaatt	cccaaggaa	cttctttttg	gaggatgggt	tccattctctg	gaggcgatct	1380
gccgacagggg	tgaatgcctt	cttgctttgc	ttctggggaa	tcagagagag	cccgttttgt	1440
ggtgggaaga	gtgtggctgt	gtactttgaa	ctcctgtaaa	ttctctgact	catgtccaca	1500
aaaccaacag	ttctgtgaat	gtgtctggag	gcaagggaag	ggccactcag	gatctatgtt	1560
gaaggggaaga	ggcctggggc	tggagtattc	gctt			1594

<210> 475

<211> 2414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> {33}
 <223> n=A,T,C or G

<400> 475
 cccacacaaa tggctttata agaatgcttc acntgtgaaa aacaaatato aaagtctctot 60
 tgtagattat ttttaaggac aatcttttat tccatgttta atttatctag ctttccctgt 120
 agctaataat tcatgtctgaa cactttttta atgctgtaaa tgtagataat gtaattctatg 180
 tatcattaat gctctctttag tagtcttagag aaaaogtcaa aagaaatggc cccagaataa 240
 gottcttgat ttgtaaaatt ctatgtcatt ggctcaaatt tgtatagtat ctcaaaatat 300
 aatatctatg acatctcaga tcatatattt gaatatagaa attctgttta gaaaataata 360
 gtacttaact agatgagaat aacaggtcgc cattatttga attgtctcct attcgttttt 420
 catttctgtg gttaactcat ttttaacttat ggggggatat atataacttc cgtctgtttt 480
 agaagtattg tatgcagtca gtatgagaat gcaatttaag tttccttgat gctttttcac 540
 actctctatta ctgaaataa gaatacagta atattggcaa agaaaattga ccagttcaat 600
 aaaaattttt agtaaatctg attgaaaata aacattgctt atggctttct tacatcaata 660
 ttgttatgtc ctagacacct tatctgaaat taoggtctca aatttcta atgtgtcaaa 720
 tgggtaaaat atcaatactt tatgttcaag ctggggcttc ttcaggcgtc ctgggctgag 780
 agagaaagat gctagctccg caagccgggg agggaaacac gccacattgt tacatggaca 840
 caccgccacg tggacacatg accagaactca catgtacaga cacaoggaga cattaccaca 900
 tggagacacc gtacacacag cacaogagca cactggcata gtacatgga cggacacaca 960
 gacatatgga gaatacacc tgacacacca ccacactat acagggaac agacacacgg 1020
 agacatcacc acatggacac actgtcacac taccacaggg acacgagaca tcacactgtc 1080
 acatggacac accatcacac acatgaacac accgacacac tgcacatggt acactgccc 1140
 acacactgcc acactgtcac atggacacac ctccatacca tcacacccc acacacactg 1200
 ccagtgtgac acaggacac acagacactg tcacacagat acacaaaaca ctgtcacacg 1260
 gagacatcac catgcagata accaccaca tggacatagc accagacact ctgccacaca 1320
 gatacaccac cacacagaaa tggggacaca utgccacaca gacaccaaca catcgttgc 1380
 acactttcat gctctagctg ggggtgtggg cccacgact ctgggctcta atcgagaaat 1440
 tacttggaca tatagtgaag gcaaaatttt tttttatttt ctgggttaac aagcgcgact 1500
 ctgtctcaaa aaaaagaaaa aaaagcaata tactgtgtaa tctgtgacag cataattcac 1560
 cattatgtag atcggagagc agaggattct gaatgcatga acatatcatt aacatttcaa 1620
 tacattactc ctacttactg atgaactaaa gagaaaccaa gaatttatgg tgatagttaa 1680
 attgacctgg agaaatgtag acacaaaaga accgtaagat gagaaatgtg ttaacacagt 1740
 ctataagggc atgcaagaat aaaaataggg gagaaaaacag gagagttttt caagagcttt 1800
 ctggctcatgt aagtcacact gtatcggtta attttcaaaa ggtttattta catgcaatat 1860
 actgcacata ctccaattgt acattttggg aattcttggc atttgtagct ctataaaacc 1920
 agcaacatat taaaatagca aacatatcca ttacctttac caccaaagtt ttcttgtgtt 1980
 ttttctactc actttttcct gcttatcccc ccactctctc cacaggtaac cactgatcca 2040
 ctccagtcac ctatccatga gtttttattt ccaaatacat gaaatcatat gaatttctgg 2100
 ttttctctgt tggagcccaa ggagcaaggg cagaatgagg aacatgatgt ttcttwcga 2160
 cagttactca tgacgtctcc atccaggact gaggggggca tcttctctca tctaggactg 2220
 ggggcactct tctccatcca gtattggggg tcatcttctt ccatecagta ttgggggtca 2280
 tctctctcca tccaggacct gagggtgtgc ctttctctgc ctctcttggg tggcagctct 2340
 tcccttcatg tttatagtra ctaccatta aatcaactgt ccgttttttc ctaaaaataa 2400
 aaaaaaaaaa aaaa 2414

<210> 476
 <211> 3434
 <212> DNA
 <213> Homo sapiens

<400> 476

ctgtgctgca	aatgggggcca	tatagaggaa	aggagcagct	ggctctggag	catgggtgtgc	60
actccctttg	ggccttcagt	ccatgtctca	tgggtcgtat	gacactgcgg	gcttgttggg	120
tgccaagagg	cagaccacag	gtcatcttga	ggaggacttt	atgttccagt	ccagaaagca	180
gccagtggta	ccacccaggg	gacttgtgct	tctgtggccc	aggccagaog	tagaatttga	240
caaagtcagg	acgggtctcag	tcagagcagc	atgtcgggtcc	cgggggcttg	tgcattccgg	300
gcaggggccag	gctggcttaa	ggagcaagca	gccacctctg	tcagggggtgt	gcctggagca	360
ggtggagcag	ccaccaacct	cacgcactga	aagaagcagg	gatggccagg	ttccaacatc	420
ctgagtggct	gccacctgat	ggctgatgga	gcagaggcct	gaggaaaagc	agatggcact	480
gctttgtagt	gctgttcttt	gtctctcttg	atctttttca	gttaatgtct	gttttatcag	540
agactaggat	tgcaaaacct	gctctttttt	gctttccatt	tgccttggtaa	atattcctcc	600
atccctttat	tttaagccta	tgtgtgtctt	tgcacatgag	atgggtctcc	tgaatacagg	660
acaacaattg	gtctttactc	tttatccaac	ttgccagtct	gtgtctttta	actggggcat	720
ttagccattt	tacabtttaag	tttagtattt	gttacatgtg	aaatttatcc	tgtcatgatg	780
ttgctagctt	tttatttttt	ccattagttt	gcagtttctt	tatagtgtca	atgggtctta	840
caattcgata	tgttttttga	gtggcttgga	ctgggttttt	ctttctacgt	ttagtgtctc	900
cttcaggagc	tcttgttaaca	caagaatgtg	gatttatctc	ttgtaaggta	aatatgtgga	960
tttattcttg	gactgtatcc	tatggccttt	accccaagaa	tcattacttt	ttaaaatgca	1020
attcaaatga	gcataaaaac	tttacagcct	atggaaagga	ttgtggcatt	agaatccctc	1080
tttataggat	tatttttgtgt	ttttcttgaga	tatggctctt	gtcatcgagg	cagaaagtgc	1140
gtggtttcga	cataattcac	cacagccctg	aactcttgag	cccaagccat	cccttttgcrt	1200
taactctcca	accagtggga	ctacaagca	taaggcatca	tgcgtggcta	abtttttccac	1260
gttttttttt	tttttgtoga	gattatggta	tcactgtggt	gctctggctg	atctcaaatg	1320
tttgacccca	agggatcttt	ctgccacagc	ctcctaaagt	gctaggatta	tatgcctgat	1380
acaccatgcc	tattgttagag	tattacatta	ttttcaaagt	cttattgtta	gagccattta	1440
ttgcctttgg	cctaaataac	tcaatataat	atctctgaaa	cttttttttg	acaaatctttg	1500
gggctgtgat	atgagagagc	gggggtttgaa	actttctaat	aagagttaac	ttagagccat	1560
ttaagaaagg	aaaaaacaca	aattatcaga	aaaacaacag	taagatcaag	tgcaaaagtt	1620
ctgtggcaaa	gatgatgaga	gtaaagaata	tatgtttgtg	actcatgggtg	gcttttactt	1680
tgttcttgaa	tttcttgagta	cgggttaaca	tttaagaact	ctacattata	gataacattt	1740
tattgcaagt	aaatgtatct	caaaatttgt	tattgggttt	gtatgagatt	attctcagcc	1800
tacttcatta	tcaagctata	ttattttatt	aatgtagctc	gatgatctta	cagcaaaagt	1860
gaaagctgta	tcttcaaaat	atgtctatct	gactaaaaag	ttattcaaca	ggagtattta	1920
tcatataaaa	aatacaaacg	gaatataaaa	aacttgaggc	taaaaagatg	ttggaaaaag	1980
taataattaaa	ctttaaaaaa	catatggaaa	ctacacaaatg	gtgaagacac	attgggtgaag	2040
tacaaaaata	taaaattggat	ctagaagaaa	gggcaatgca	ggcaatagaa	aaatttagtag	2100
aaatcccttt	aaaggcttag	ttgtaaaatc	aggtaagttt	atttataatc	tgtcttccat	2160
tattctactg	tttggatata	tttggatata	tatatataat	gtgcttccct	tgcctgtctt	2220
acagcaattt	gctttgcaga	gttctaggaa	aaagggtggc	tgtgttttta	ctttcaaaat	2280
atttaaatct	ccatcattat	aacaaaatca	atttttcaga	gtaatgattc	tcactgtgga	2340
gtcattttgat	tattaagacc	ogttggcata	agattacatc	ctctgactat	aaaaatcctg	2400
gaagaaaaac	taggaatat	togtctggac	attgcacttg	gcaatgaatt	tatggggcgt	2460
ttggaatcct	gcagatataa	taatgataat	taaacaaaac	actcagagaa	actgccaaac	2520
ctaggatgaa	gtatattgtt	actgtgcttt	gggattaaaa	taagtaacta	cagtttatag	2580
aaotittata	ctgatacaca	gacactaaaa	agggaaaggg	tttagatgag	aagctctgct	2640
atgcaatcaa	gaatctcagc	cactcatttc	tgtaggggct	gcaggagctc	cctgttaaga	2700
gagggttatgg	agtcctgtagc	ttcaggtaag	atacttaaaa	cccttcagag	tttctcactt	2760
ttttcccata	gtttccccc	aaagggttatg	acactttata	agaatgcttc	acttgtgaaa	2820
aacaaatata	aaagtctctc	tgtagattat	ctttaaggac	aaatctttat	tccatgttta	2880
atttatttag	ctttccctgt	agctaataat	tcatgctgaa	cacattttca	atgctgtaaa	2940
tgtagataat	gtattttatg	tatcatfaat	gcctctttag	tagtttagag	aaaacgtcaa	3000
aagaaatggc	cccagaataa	gcttctctgat	ttgtaaaatt	ctatgtcatt	ggctcaaatc	3060
tgtatagtat	ctcaaaatat	aaatatatag	acatctcaga	taatatattt	gaatatagca	3120
attcctgtta	gaaataata	gtacttaact	agatggaact	aacaggctcg	cattatttga	3180
attgtctcct	attcgttttt	catttgtctg	gttactcatg	ttttacttat	gggggggata	3240
atataacttc	ogctgttttc	agaagtattg	tatgcagtca	gtatgagaat	gcaatttaag	3300
tttccctgat	gctttttcac	acttctctta	ctagaataaa	gaatacagta	atattggcaa	3360
agaaaattga	ccagttccat	aaaaattttt	agtaaatctg	attgaaata	aaaaaaaaaa	3420
aaaaaaaaaa	aaaa					3434

```

<400> 477
Met Asp Gly His Thr Asp Ile Trp Arg Asn His Met Asp Thr Pro Pro
      5                      10                      15

His Tyr His Arg Asp Thr Asp Thr Arg Arg His His His Met Asp Thr
      20                      25                      30

Leu Ser His Tyr His Arg Asp Thr Arg His His Thr Val Thr Trp Thr
      35                      40                      45

His His His Thr His Glu His Thr Asp Thr Leu Pro Tyr Gly His Trp
      50                      55                      60

His Thr His Cys His Thr Val Thr Trp Thr His Leu His Thr Ile Thr
      65                      70                      75                      80

Pro Pro His Thr Leu Pro Val Asp Thr Arg Thr His Arg His Cys His
      85                      90                      95

Thr Asp Thr Gln Asn Thr Val Thr Arg Arg His His His Ala Asp Thr
      100                      105                      110

Pro Pro Leu Trp Cys Arg Leu Asn Tyr Pro Ala Gly Gly Thr Ala Val
      115                      120                      125

Ala Tyr Ser Cys Leu Ser Asp Trp Leu Ser Pro Gln
      130                      135                      140

```

```
<210> 478
<211> 143
<212> PRT
<213> Homo sapiens
```

BNSDOCID: <WO 0134802A2TI >

His Gly His Thr Ser Thr Pro Ser His His His Thr His Cys Leu Trp
 100 105 110
 Thr Gln Gly His Thr Asp Thr Val Thr Gln Ile His Lys Thr Leu Ser
 115 120 125
 His Gly Asp Ile Thr Met Gln Ile His His His Ser Gly Ala Val
 130 135 140

<210> 479
 <211> 222
 <212> PRT
 <213> Homo sapiens

<400> 479
 Met Tyr Arg His Thr Glu Thr Leu Pro His Gly Asp Thr Val Thr Gln
 5 10 15
 Ser His Glu His Thr Gly Ile Val Thr Trp Thr Asp Thr Gln Thr Tyr
 20 25 30
 Gly Glu Ile Thr Leu Thr His His His Thr Ile Thr Gly Thr Gln Thr
 35 40 45
 His Gly Asp Ile Thr Thr Trp Thr His Cys His Thr Thr Thr Gly Thr
 50 55 60
 Arg Asp Ile Thr Leu Ser His Gly His Thr Ile Thr His Met Asn Thr
 65 70 75 80
 Pro Thr His Cys His Met Asp Thr Ala Thr His Thr Ala Thr Leu Ser
 85 90 95
 His Gly His Thr Ser Ile Pro Ser His His His Thr His Cys His Val
 100 105 110
 Asp Thr Arg Thr His Arg His Cys His Thr Asp Thr Gln Asn Thr Val
 115 120 125
 Thr Arg Arg His His His Ala Asp Thr Pro Pro His Gly His Ser Thr
 130 135 140
 Arg His Ser Ala Thr Gln Ile His His His Thr Glu Met Arg Thr His
 145 150 155 160
 Cys His Thr Asp Thr Thr Thr Ser Leu Pro His Phe His Val Ser Ala
 165 170 175
 Gly Gly Val Gly Pro Thr Thr Leu Gly Ser Asn Arg Glu Ile Thr Trp
 180 185 190
 Thr Tyr Ser Glu Gly Lys Ile Phe Phe Tyr Phe Leu Gly Asn Gln Ala
 195 200 205
 Arg Leu Cys Leu Lys Lys Arg Lys Lys Lys Gln Tyr Thr Val
 210 215 220

<210> 480
 <211> 144
 <212> PRT
 <213> Homo sapiens

<400> 480
 Met Glu Pro Tyr Arg Gly Asn Glu Gln Pro Ser Gln Glu Gln Gly Val
 5 10 15
 Cys Cys Leu Trp Gly Leu Gln Ser Leu Pro Gln Gly Ser Tyr Val Thr
 20 25 30
 Val Gly Phe Leu Val Val Lys Arg Gln Thr Ile Gly Arg Leu Glu Arg
 35 40 45
 Asp Phe Met Phe Lys Cys Arg Lys Gln Pro Gly Leu Pro Pro Ser Gly
 50 55 60
 Leu Cys Leu Leu Trp Pro Trp Pro Asn Leu Glu Phe Gly Arg Arg Gln
 65 70 75 80
 Asp Arg Leu Thr Trp Ser Ser Val Ser Val Ala Gly Val Cys Ala Cys
 85 90 95
 Arg Ala Arg Pro Gly Trp Leu Gly Glu Gln Pro Ala Thr Ser Ala Gly
 100 105 110
 Val Arg Leu Glu Gln Val Glu Gln Pro Pro Ala His Pro Leu Gln Glu
 115 120 125
 Ala Gly Val Ala Arg Phe Pro Arg Pro Glu Trp Val Pro Pro Asn Gly
 130 135 140

<210> 481
 <211> 167
 <212> PRT
 <213> Homo sapiens

<400> 481
 Met His Gly Pro Gln Val Leu Ala Arg Cys Ser Glu Cys Ala Cys Pro
 5 10 15
 Ala Leu Ala Ala Thr Ser Ala Gly Val Arg Leu Glu Gly Val Asp Arg
 20 25 30
 Pro Pro Thr Leu Pro Ser Gln Gly Ser Gly Trp Pro Cys Ser His Ser
 35 40 45
 Leu Ser Gly Cys His Leu Met Ala Asp Gly Ala Lys Ala Leu Gly Lys
 50 55 60
 Ala Asp Gly Pro Trp Pro Tyr Leu Phe Val Arg Arg Thr Asp Val Pro

65		70		75		80									
Cys	Pro	Ala	Ala	Ser	Glu	Val	Gly	Gly	Cys	Ala	Pro	Ser	Ser	Trp	Arg
				85					90					95	
Ala	Leu	Ala	Glu	Val	Thr	Gly	Cys	Ser	Leu	Gly	Pro	Leu	Gly	Leu	Ala
		100						105					110		
Gln	His	Ala	Gln	Ala	Ser	Val	Leu	Leu	Leu	Cys	Tyr	Lys	Trp	Ser	His
	115						120					125			
Ile	Gly	Glu	Thr	Ser	Ser	His	Leu	Arg	Ser	Lys	Val	Tyr	Ala	Ala	Phe
	130					135					140				
Gly	Gly	Ser	Ser	Pro	Cys	Leu	Lys	Gly	Leu	Met	Ser	Leu	Trp	Ala	Ser
145					150					155					160
Trp	Leu	Ser	Arg	Gly	Arg	Pro									
				165											

<210> 482

<211> 143

<212> PRT

<213> Homo sapiens

<400> 482

Met	Glu	Pro	Tyr	Arg	Gly	Asn	Lys	Lys	Gln	Val	Gln	Glu	Lys	Gly	Val
				5					10					15	
Pro	Cys	Leu	Trp	Gly	Ser	Ser	Pro	Cys	Leu	Arg	Cys	His	Met	Ala	Leu
		20						25					30		
Arg	Ala	Ser	Trp	Leu	Pro	Gly	Gly	Gly	Pro	Gln	Ala	Ile	Leu	Gly	Arg
		35					40					45			
Thr	Leu	Cys	Ser	Ser	Ala	Glu	Ser	Ser	Gln	Asp	Cys	His	Pro	Gly	Gly
	50					55				60					
Pro	Ser	Ile	Ala	Leu	Ala	Lys	Pro	Cys	Arg	Gly	Val	Trp	Leu	Leu	Phe
65				70						75					80
Glu	Pro	Ala	Trp	Pro	Pro	Trp	His	Ala	Arg	Ala	Pro	Gly	Ala	Gly	Thr
			85						90					95	
Leu	Leu	Arg	Val	Cys	Leu	Ser	Cys	Leu	Gly	Cys	His	Leu	Cys	Gly	Gly
		100						105					110		
Ala	Ser	Gly	Gly	Gly	Gly	Pro	Ala	Thr	Asn	Leu	Thr	Gln	Ser	Arg	Lys
	115						120					125			
Trp	Met	Ala	Met	Phe	Pro	Gln	Pro	Glu	Trp	Leu	Pro	Pro	Asp	Gly	
130						135						140			

<210> 483

<211> 143

<212> PRT

<213> Homo sapiens

<400> 483

```

Met Glu Thr Gln Arg Gly Asn Lys Gln Arg Ala Gln Glu Gln Gly Val
      5                      10                      15

Cys Cys Leu Trp Gly Ser Ser Pro Cys Leu Gly Ser Tyr Gly Thr Ala
      20                      25                      30

Gly Phe Leu Val Ala Lys Arg Arg Thr Thr Gly Leu Leu Glu Glu Asp
      35                      40                      45

Phe Thr Phe Lys Cys Arg Lys Gln Pro Lys Leu Pro Ser Met Arg Leu
      50                      55                      60

Ser Leu Leu Trp Pro Trp Arg Asp Leu Lys Phe Val Pro Arg Gln Asp
      65                      70                      75                      80

Lys Leu Thr Arg Ser Ser Val Ser Val Ala Gly Ala Tyr Ala Cys Arg
      85                      90                      95

Ala Gly Pro Gly Trp Leu Lys Glu Gln Pro Ala Thr Ser Ala Arg Val
      100                     105                     110

Arg Leu Val Gln Ala Glu His Pro Pro Pro His Pro Leu Glu Glu Val
      115                     120                     125

Gly Met Ala Arg Phe Pro Gln Pro Glu Cys Leu Pro Pro Tyr Cys
      130                     135                     140

```

<210> 484

<211> 30

<212> PRT

<213> Homo Sapien

<400> 484

```

Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly Phe
  1      5                      10                      15

Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile
      20                      25                      30

```

<210> 485

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 485

gggaggetta tcaactatgt gccgectctg c

31

<210> 486

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 486

gaggaattctc acgctgagta tttagcc

27

<210> 487

<211> 36

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 487

ccggaattct tagctgccc tccgaacgcc ttcatc

36

<210> 488

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 488

gggaagcttc ttccccggt gcaccagctg tgc

33

<210> 489

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 489

Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val Tyr Leu Ala

1 5 10 15

Ser Val Ala

<210> 490

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 490

Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys

1 5 10 15

Leu Ser His Ser

20

<210> 491

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 491

Thr	Cys	Leu	Ser	His	Ser	Val	Ala	Val	Val	Thr	Ala	Ser	Ala	Ala	Leu
1				5					10					15	
Thr	Gly	Phe	Thr												
			20												

<210> 492

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 492

Ala	Leu	Thr	Gly	Phe	Thr	Phe	Ser	Ala	Leu	Gln	Ile	Leu	Pro	Tyr	Thr
1				5					10					15	
Leu	Ala	Ser	Leu												
			20												

<210> 493

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 493

Tyr	Thr	Leu	Ala	Ser	Leu	Tyr	His	Arg	Glu	Lys	Gln	Val	Phe	Leu	Pro
1				5					10					15	
Lys	Tyr	Arg	Gly												
			20												

<210> 494

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 494

Leu	Pro	Lys	Tyr	Arg	Gly	Asp	Thr	Gly	Gly	Ala	Ser	Ser	Glu	Asp	Ser
1				5					10					15	
Leu	Met	Ile	Ser												
			20												

<210> 495

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 495

Asp	Ser	Leu	Met	Thr	Ser	Phe	Leu	Pro	Gly	Pro	Lys	Pro	Gly	Ala	Pro
1				5					10					15	
Phe	Pro	Asp	Gly												
			20												

<210> 496

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 496

Ala	Pro	Phe	Pro	Asn	Gly	His	Val	Gly	Ala	Gly	Gly	Ser	Gly	Leu	Leu
1				5				10						15	
Pro	Pro	Pro	Pro	Ala											
			20												

<210> 497

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 497

Leu	Leu	Pro	Pro	Pro	Pro	Ala	Leu	Cys	Gly	Ala	Ser	Ala	Cys	Asp	Val
1				5					10					15	
Ser	Val	Arg	Val												
			20												

<210> 498

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 498

Asp	Val	Ser	Val	Arg	Val	Val	Val	Gly	Glu	Pro	Thr	Glu	Ala	Arg	Val
1				5					10					15	
Val	Pro	Gly	Arg												
			20												

<210> 499

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 499

```
Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 1           5           10           15
Ser Ala Phe Leu
                20
```

<210> 500

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 500

```
Leu Asp Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met
 1           5           10           15
Gly Ser Ile Val
                20
```

<210> 501

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 501

```
Phe Met Gly Ser Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met
 1           5           10           15
Val Ser Ala Ala
                20
```

<210> 502

<211> 414

<212> DNA

<213> Homo Sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 502

```
caccatggag acaggcctgc gctggctttt cctggctgct gtgctcaaag gtgtccaatg      60
tcagtgggtg gaggagtcag ggggtgcctt ggtcacgctt gggcacctt tgacctcac      120
ctgtagagtc ttgggaatng acctcagtag caatgcaatg agctgggtcc gccaggctcc      180
agggaaaggg ctggaatgga tcggagccat tgataattgt ccacantacg cgacctgggc      240
gaaaggccga ttnatnattn ccaaaacctn gaccacggtg gatttgaaaa tgaccagtcc      300
gacaacagag gacaaggcca cctatttttg tggcagaatg aatactggta atagtggttg      360
gaagaatatt tggggcccag gcacctggt cactgtntcc tcagggaac ctaa      414
```

<210> 503

<211> 379

<212> DNA

<213> Homo Sapiens

<220>

<221> misc_feature

<222> (1) ... (379)

<223> n = A,T,C or G

<400> 503

atnagatggg	gcttgggtcaa	agggtgtccag	tgtcagtcagg	tggaggagtc	cggggggtcgc	60
ctggtcacgc	ctgggacacc	cctgacactc	acctgcaccg	tntctggatt	ngacatcagt	120
agctatggag	tgagctgggt	cggccaggct	ccagggaagg	ggctgggnata	catcggtatca	180
ttagtagtag	tggtacattt	tacgogagct	gggcgaaaag	ccgattcacc	atttccaaaa	240
cctngaccac	ggtggatttg	aaaatcacca	gtttgacaa	cgaggacag	gccacctatt	300
tntgtgcccag	gggggggttt	aattatsaag	acatttgggg	cccaggccacc	ctggtcaccg	360
tntccttagg	gcaacctaa					379

<210> 504

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 504

Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp	Ser	Pro	Tyr	Phe	Lys	Glu
1				5				10						15	
Asn	Ser	Ala													

<210> 505

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 505

Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn	Asp	Asn	Val	Thr
1				5				10						15	
Asn	Thr	Ala	Asn												
				20											

<210> 506

<211> 407

<212> DNA

<213> Homo Sapien

<400> 506

atggagacag	gcctgcgctg	gcttctcctg	gtgctgcgc	tcaaagggtg	ccagtgtcag	60
tgcctggagg	agtcgggggg	tgcctgggtc	acgcctggga	cacccctgac	actcacctgc	120
accgtctctg	gattctccct	cagtagcaat	gcaatgatct	gggtccgcca	ggctccaggg	180
aaggggctgg	aatacatcgg	atacattagt	tatggtggta	gcgcatacta	tcgcnagctgg	240
gtgaaaggcc	gattcaccat	ctccaaaacc	tcgaccacgg	tggatctgag	aatgaccagt	300
ctgacaaccg	aggacacggc	cacctatttc	tgtgccagaa	atagtgattt	tagtggtatg	360
ctgtggggcc	caggcacccct	ggtcacctgc	tccctcagggc	aacctaa		407

175

<210> 507
 <211> 422
 <212> DNA
 <213> Homo Sapien

<400> 507
 atggagacag gcctgcgctg gcttctctctg gtcgctgtgc tcaaagggtg coagtgtcag 60
 teggtggagg agtccggggg tgccttggtc agcctggga ccccttgac actcaactgt 120
 acagtctctg gattctcct cagcaactac gacctgaact ggtccgcca ggtccaggg 180
 aaggggctgg aatggatcgg gatcattaat tatgttggtg ggacggacta cgcgaactgg 240
 gcaaaaggcc ggttcacat ctccaaaacc tcgaccaccg tggatctcaa gatogccagt 300
 ccgacaaccg aggacacggc cccctatttc tgtgcragag ggtggaggtg cgatgagttt 360
 ggtccgtgct tgcgcattct gggcccaggc accctggta cgttctctt agggcaacct 420
 aa 422

<210> 508
 <211> 411
 <212> DNA
 <213> Homo Sapiens

<220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n = A, T, C or G

<400> 508
 atggagacag gcctgcgctg cttctctctg tgcgtgtgtt caaagggtgt cagtgtcagt 60
 cgggtggagg gtcogggggt cgccttggtc cgcctgggac acccctgaca ctccactgca 120
 cagtctcttg aatcgacctc agtagctact gcctgagctg ggtccgcccag gctccaggga 180
 aggggctgga atggatcgga atcatttggt ctccctgggtg cactactac gcgaggtggg 240
 cgaaaggccg attcaccatc tccaaaaact cgaaccagggt gcatntgaaa atcncagtc 300
 cgacaacoga ggacacggcc acctatttct gtgccagaga tcttcgggat ggtagtagta 360
 ctggttatca taaaatctgg gggccaggca ccttggtcac cgtctccttg g 411

<210> 509
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 509
 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 1 5 10 15

<210> 510
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 510
 Pro Glu Tyr Asn Arg Pro Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5 10 15

<210> 511
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 511

Tyr	His	Pro	Ser	Met	Phe	Cys	Ala	Gly	Gly	Gly	Gln	Asp	Gln	Lys
1				5				10					15	

<210> 512
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 512

Asp	Ser	Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu
1				5				10					15	

<210> 513
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 513

Ala	Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Asx	Val	Tyr	Thr	Asn	Leu
1				5				10					15	

<210> 514
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 514

Leu	Cys	Lys	Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser
1				5				10					15	

<210> 515
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 515
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg
 1 5 10 15

<210> 516
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 516
 Val Ser Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln
 1 5 10 15

<210> 517
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 517
 Glu Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met
 1 5 10 15

<210> 518
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 518
 Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 1 5 10 15

<210> 519
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Made in a lab

<400> 519
 Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg Asn Tyr Asp Glu Gly Cys
 1 5 10 15
 Gly

<210> 520
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Made in a lab

<400> 520

Val	Gly	Glu	Gly	Leu	Tyr	Gln	Gly	Val	Pro	Arg	Ala	Glu	Pro	Gly	Thr
1				5				10						15	
Glu	Ala	Arg	Arg	His	Tyr	Asp	Glu	Gly							
			20				25								

<210> 521

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 521

Ala	Pro	Phe	Pro	Asn	Gly	His	Val	Gly	Ala	Gly	Gly	Ser	Gly	Leu	Leu
1				5				10						15	
Pro	Pro	Pro	Pro	Ala											
				20											

<210> 522

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 522

Leu	Leu	Val	Val	Pro	Ala	Ile	Lys	Lys	Asp	Tyr	Gly	Ser	Gln	Glu	Asp
1				5					10					15	
Phe	Thr	Gln	Val												
			20												

<210> 523

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<220>

<221> VARIANT

<222> (1)...(254)

<223> Xaa = any amino acid

<400> 523

Met	Ala	Thr	Ala	Gly	Asn	Pro	Trp	Gly	Trp	Phe	Leu	Gly	Tyr	Leu	Ile
1				5				10						15	
Leu	Gly	Val	Ala	Gly	Ser	Leu	Val	Ser	Gly	Ser	Cys	Ser	Gln	Ile	Ile
			20					25					30		
Asn	Gly	Glu	Asp	Cys	Ser	Pro	His	Ser	Gln	Pro	Trp	Gln	Ala	Ala	Leu
			35				40								45


```

Val Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln
  50                      55                      60
Trp Val Leu Ser Ala Thr His Cys Phe Gln Asn Ser Tyr Thr Ile Gly
  65                      70                      75                      80
Leu Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met
                      85                      90                      95
Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu
  100                      105                      110
Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu
  115                      120                      125
Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala
  130                      135                      140
Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg
  145                      150                      155                      160
Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu
                      165                      170                      175
Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys
                      180                      185                      190
Ala Gly Gly Gly Gln Lys Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly
  195                      200                      205
Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly
  210                      215                      220
Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu
  225                      230                      235                      240
Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
                      245                      250

```

<210> 524

<211> 765

<212> DNA

<213> Homo sapien

<400> 524

```

atggccacag caggaaatcc ctggggctgg ttcttggggg acctcatcct tgggtgtcgca 60
ggatcgctcg tctctggtag ctgcagccaa atcataaacg gggaggactg cagcccgcac 120
tcgcagccct ggcaggcggt actggtcatg gaaaacgaat tgttctgctc gggcgctctg 180
gtgcctccgc agtgggtgct gtcagccgca caatgttctc agaactctca caccatcggt 240
ctggggctgc acagtcttga ggcgaccaa gagccaggga gccagatggt ggaggccagc 300
ctctccgtac ggcaccocaga gtacaacaga ccttctgctc ctaacgacct catgctcctc 360
aagttggacg aatccgtgct cgagctctgac accatccgga gcacagcat tgcttcgcag 420
tgccctaccg cgggggaactc ttgcctcggt tctggctggg gtctgctggc gaacggcaga 480
atgctaccg tgcagcgtg cgtgaacgtg tcggtgggtg ctgaggaggt ctgcagtaag 540
ctctatgacc cgtgtacca cccagcctg ttctgcgctg gcggagggca agaccagaag 600
gactcttgcg acggtgactc tggggggccc ctgatctgca acgggtactt gcagggcctt 660
gtgtctttcg gaaaagcccc gtgtggccaa gttggcgctg caggtgtcta caccacactc 720
tgcaaattca ctgagtggtat agagaaaacc gtccaggcca gttaa 765

```

<210> 525

<211> 254

<212> PRT

<213> Homo sapien

<400> 525

```

Met Ala Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile
  1                      5                      10                      15
Leu Gly Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile
  20                      25                      30
Asn Gly Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu

```

35	40	45
Val Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln		
50	55	60
Trp Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly		
65	70	75
Leu Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met		80
	85	90
Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu		95
	100	105
Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu		110
	115	120
Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala		125
	130	135
Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg		140
145	150	155
Met Pro Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu		160
	165	170
Val Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys		175
	180	185
Ala Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly		190
	195	200
Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly		205
	210	215
Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu		220
225	230	235
Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser		240
	245	250

<210> 526

<211> 963

<212> DNA

<213> Homo sapiens

<400> 526

```

atgagttcct gcaacttcac acatgccacc tttgtgctta ttgggtatccc aggattagag 60
aaagcccatc tctgggttgg ctcccccctc ctcccatgt atgtagtggc aatgttttgg 120
aactgcacgc tgggtcttcac cgttaaggacg gaacgcagcc tgcacgctcc gatgtacctc 180
tttctctgca tgcctgcagc caattgaactg gcccttatcca catccaccat gccctaagatc 240
cttgcccttt tctgggttga ttcccgagag attagctttg aggcctgtct taccagatg 300
ctctttatcc atgccccttc agccattgaa tccaccatcc tgcctggccat ggcccttgac 360
cgcttatgtg ccactctgcca cccactgcgc catgctgcag tgcctcaaca tacagtaaca 420
gccagatctg gcactcgtggc tgtgggtccg ggatccctct ttttttcccc actgcccctg 480
ctgatcaagc ggctggcctt ctgccactcc aatgtcctct cgcactccta ttgtgtccac 540
caggatgtaa tgaagttggc ctatgcagac actttgccca atgtggkata tggctctact 600
gccattctgc tggtcattggc cgtggagcta atgttcactc ccttgctcta ttttctgata 660
atacgaacgg ttctgcaact gccctccaag tcagagggg ccaaggcctt tggaaacctgt 720
gtgtcacaca ttggtgttgt actgccttc tabgtgccac ctattggcct ctcaagtcta 780
caccgctttg gaaacagcct tcatcccat gtgcgtgtg tcatgggtga catctacctg 840
ctgctgcctc ctgtcatcaa tcccatcat tatggtgcca aaaccaaaac gatcagaaca 900
cgggtgctgg ctatgttcaa gatcagctgt gacaaggact tgcaggctgt gggaggcgaag 960
tga
963

```

<210> 527

<211> 320

<212> PRT

<213> Homo sapiens

<400> 527

Met Ser Ser Cys Asn Phe Thr His Ala Thr Phe Val Leu Ile Gly Ile
 5 10 15
 Pro Gly Leu Glu Lys Ala His Phe Trp Val Gly Phe Pro Leu Leu Ser
 20 25 30
 Met Tyr Val Val Ala Met Phe Gly Asn Cys Ile Val Val Phe Ile Val
 35 40 45
 Arg Thr Glu Arg Ser Leu His Ala Pro Met Tyr Leu Phe Leu Cys Met
 50 55 60
 Leu Ala Ala Ile Asp Leu Ala Leu Ser Thr Ser Thr Met Pro Lys Ile
 65 70 75 80
 Leu Ala Leu Phe Trp Phe Asp Ser Arg Glu Ile Ser Phe Glu Ala Cys
 85 90 95
 Leu Thr Gln Met Phe Phe Ile His Ala Leu Ser Ala Ile Glu Ser Thr
 100 105 110
 Ile Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile Cys His Pro
 115 120 125
 Leu Arg His Ala Ala Val Leu Asn Asn Thr Val Thr Ala Gln Ile Gly
 130 135 140
 Ile Val Ala Val Val Arg Gly Ser Leu Phe Phe Phe Pro Leu Pro Leu
 145 150 155 160
 Leu Ile Lys Arg Leu Ala Phe Cys His Ser Asn Val Leu Ser His Ser
 165 170 175
 Tyr Cys Val His Gln Asp Val Met Lys Leu Ala Tyr Ala Asp Thr Leu
 180 185 190
 Pro Asn Val Val Tyr Gly Leu Thr Ala Ile Leu Leu Val Met Gly Val
 195 200 205
 Asp Val Met Phe Ile Ser Leu Ser Tyr Phe Leu Ile Ile Arg Thr Val
 210 215 220
 Leu Gln Leu Pro Ser Lys Ser Glu Arg Ala Lys Ala Phe Gly Thr Cys
 225 230 235 240
 Val Ser His Ile Gly Val Val Leu Ala Phe Tyr Val Pro Leu Ile Gly
 245 250 255
 Leu Ser Val Val His Arg Phe Gly Asn Ser Leu His Pro Ile Val Arg
 260 265 270
 Val Val Met Gly Asp Ile Tyr Leu Leu Leu Pro Pro Val Ile Asn Pro
 275 280 285
 Ile Ile Tyr Gly Ala Lys Thr Lys Gln Ile Arg Thr Arg Val Leu Ala
 290 295 300
 Met Phe Lys Ile Ser Cys Asp Lys Asp Leu Gln Ala Val Gly Gly Lys

305

310

315

320

<210> 528
 <211> 20
 <212> DNA
 <213> Homo Sapien

<400> 528
 actatggtcc agaggctgtg

20

<210> 529
 <211> 20
 <212> DNA
 <213> Homo Sapien

<400> 529
 atcacctatg tgcgcctct

20

<210> 530
 <211> 1852
 <212> DNA
 <213> Homo sapiens

<400> 530

```

ggcagagaa ttaaaaccc cagcaaaaca ggcatagaag ggacatacct taaagtaata 60
aaaaccacct atgacaagcc caccgccaac ataactactaa atgggggaaaa gttagaagca 120
tttctctctga gaactgcaac aataaatata aggatgctgg attttgtcaa atgccttttc 180
tgtgtctgtt gagatgctta tgtgactttg cttttaattc tgtttatgtg attatcacat 240
ttatcgactt gectgtgtta gacgggaaga gctggggtgt ttctcaggag ccaccgtgtg 300
ctgcggcagc ttccgggataa cttgaggctg catcactggg gaagaaacac aytccctgcc 360
gtggogctga tggctgagga cagagcttca gctgtggcttc tctgcgactg gcttctctgg 420
ggagtctctc cttcatagtt catccatatt gctccagagg aaaattatat tattttgtta 480
tggatgaaga gtattacgtt gtgcagatat actgcagtgt cttcatctct tgatgtgtga 540
ctgggttagt tccaccatgt tgcgcagat gacatgattt cagtacctgt gtctggctga 600
aaagtgtttg tttgtgaatg gatattgtgg tttctggatc tcatcctctg tgggtggaca 660
gctttctcca ccttgctbga agtgacctgc tgtccagaag tttgatggct gaggagtata 720
ccatogtgca tgcactcttc atttctctga ttcttctctc cctggatgga caggggggagc 780
ggcaagagca acgtgggcac ttctggagac cacaaogact cctctgtgaa gacgcttggg 840
agcaagaggt gcaagtgggt ctgccactgc ttccctgctt gcaggsgggag cggcaagagc 900
aacgtggtcg cttggggaga ctacgatgac agtgccttca tggatcccag gtaccacgtc 960
catggagaag atctggataa gctccacaga getgecttgt ggggtaaagt cccacagaaag 1020
gatctcatcg tcatgctcag ggacaoggat gtgaacaaga gggacaagca aaagaggact 1080
gctctacatc tggcctctgc caatgggaat tcagaagtag taaaactcgt gctggacaga 1140
ogatgtcaac ttaactgtct tgacaacaaa aagaggacag ctctgacaaa ggcggtacaa 1200
tgccagggaag atgaatgtgc gttaatgttg ctggascatg gcactgatcc aaatattcca 1260
gatgagtatg gaaataccac tctacactat gctgtctaca atgaagataa attaatggcc 1320
aaagcactgc tcttatacgg tgcctgatat gaatcaaaaa acacgcatgg cctcacacca 1380
ctgctacttg gtatacatga gcaaaaaacag caagtgggtga aatttttaat caagaaaaaa 1440
gogaatttaa atgcgctgga tagatatgga agaactgtct tcatacttgc tctatgttgt 1500
ggatcagcaa gtatagtcag cctctactct gagcaaaatg ttgatgtatc ttctcaggat 1560
ctggaaagac ggcagagag tatgtgtgtt ctagtcatca tcatgtaatt tgcagttac 1620
ttcttgacta caaagaaaaa cagatgttaa aaatctcttc tgaaaacagc aatccagaac 1680
aagacttaaa gctgarctca gaggaagagt cacaagggtc taaagggaag garaacagcc 1740
agccagagct agaagattta tggctattga agaagaatga agaacacgga agtaactcatg 1800
tgggattccc agaaaacctg actaacgggt ccgtgtctgg caatggtgat ga 1852

```

<210> 531
 <211> 879

<212> DNA

<213> Homo sapiens

<400> 531

```

atgcacatctt cacttccctgc atttcttctt ccttggtatg acaggggggag cggcaagagg 60
aacgtgggca cttctggaga ccacaacgac tcctctgtga agacgcttgg gagcaagagg 120
tgcaagtggg gctgccaactg cttccctctg tgcaggggga gcggcaagag caacgtgggc 180
gcttggggag actacgatga cagcgcttcc atggatccca ggtaccacgt ccatggagaa 240
gatctggaca agctccacag agctgccttg tggggtaaag tccccagaaa ggaatctate 300
gtcatgtcca gggacacgga tgtgaacaag agggacaagc aaaagaggac tgcctctatc 360
ctggcctctg ccaatgggaa ttcagaagta gtaaaactcg tgcctggacg acgatgtcaa 420
cttaatgtcc ttgacaacaa aaagaggaca gctctgacaa aggcctgaca atgccaggaa 480
gatgaatgtg cgttaatgtt gctggaacat ggcactgata caaatattcc agatgagtat 540
ggaantacca ctctacacta tgcctgtctc aatgaagata aattaatggc caaagcactg 600
ctcttatacy gtgctgatat cgaatcaaaa aacaagcatg gcctcacacc actgctactt 660
ggtatacatg agcaaaaaa gcaagtgggt aattttttaa tcaagaaaaa agcgaattta 720
aatgcgctgg atagatatgg aagaactgct ctcatacttg ctgtatgttg tggatcagca 780
agtatagtca gccctctact tgagcaaaat gttgatgtat cttctcaaga tctggaaaga 840
cggccagaga gtatgctgtt tctagtcac aicatgtaa 879

```

<210> 532

<211> 292

<212> PRT

<213> Homo sapiens

<400> 532

```

Met His Leu Ser Phe Pro Ala Phe Leu Pro Pro Trp Met Asp Arg Gly
      5                                10                        15

Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp His Asn Asp Ser Ser
      20                                25                        30

Val Lys Thr Leu Gly Ser Lys Arg Cys Lys Trp Cys Cys His Cys Phe
      35                                40                        45

Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val Val Ala Trp Gly Asp
      50                                55                        60

Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr His Val His Gly Glu
      65                                70                        75                        80

Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg
      85                                90                        95

Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Arg Asp
      100                               105                       110

Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser
      115                               120                       125

Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys Gln Leu Asn Val Leu
      130                               135                       140

Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala Val Gln Cys Gln Glu
      145                               150                       155                       160

Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile
      165                               170                       175

```

Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Val Tyr Asn Glu
 180 185 190

Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu
 195 200 205

Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Ile His Glu
 210 215 220

Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu
 225 230 235 240

Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys
 245 250 255

Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu Glu Gln Asn Val Asp
 260 265 270

Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu Ser Met Leu Phe Leu
 275 280 285

Val Ile Ile Met
 290

<210> 533
 <211> B01
 <212> DNA
 <213> Homo sapiens

<400> 533
 atgtacaagc ttcagtgcaa caactgtgct acaatggag ccacagagag gaacacaagca 60
 gcaggctcag gaggagggtg tgcgtgctt cgggtctctc aatccatgcc tcagggtctc 120
 tatgccactg cagcattctt ggttgccraag aggccaaacca caggccatct tgagaaggag 180
 tttatgttcc actgcagaaa gcagccagga tcaccatcca ggggacttgg tcttctgtgg 240
 cccctggccag acatagaatt tbtgccaagg caggacaagg tcaactcagag cagcgtgtta 300
 gtacctcaaa tctgtgcgtg ccagacaagg ccaaactggc tcaatgagca accagccacc 360
 tctgcagggg tgcgtctgga ggaggtggac cagccacca ccttaccag tcaagggaagt 420
 ggatggccat gttccacag cctgagtggc tgcacctga tggctgatat agcaaggcc 480
 ttggaaaag cagatggccc ttggccctac ctttttgtta gaagaactga tgttccatgt 540
 cctgcagcga gtgaggttgg tggctgtgcc ccagctcct ggcacacct cgcagaggtg 600
 actggttgot ctttgagccc tcttagcctt gccagcatg cacaagctc agtgcacta 660
 ctgtgctaca aatggagcca tataggggaa acgagcagcc atctcaggag caaggtgtat 720
 gctgccttbg ggggtccag tcttgctc aagggtetta tgtcactgtg ggcttcttgg 780
 ttgccaagag gcagaccata g 801

<210> 534
 <211> 266
 <212> PRT
 <213> Homo sapiens

<400> 534
 Met Tyr Lys Leu Gln Cys Asn Asn Cys Ala Thr Asn Gly Ala Thr Glu
 5 10 15

Arg Lys Gln Ala Ala Gly Ser Gly Ala Gly Tyr Ala Leu Pro Ser Ala
 20 25 30

Leu Gln Ser Met Pro Gln Gly Ser Tyr Ala Thr Ala Arg Phe Leu Val
 35 40 45
 Ala Lys Arg Pro Thr Thr Gly His Leu Glu Lys Glu Phe Met Phe His
 50 55 60
 Cys Arg Lys Gln Pro Gly Ser Pro Ser Arg Gly Leu Gly Leu Leu Trp
 65 70 75 80
 Pro Trp Pro Asp Ile Glu Phe Val Pro Arg Gln Asp Lys Leu Thr Gln
 85 90 95
 Ser Ser Val Leu Val Pro Gln Ile Cys Ala Cys Gln Thr Arg Pro Asn
 100 105 110
 Trp Leu Asn Glu Gln Pro Ala Thr Ser Ala Gly Val Arg Leu Glu Glu
 115 120 125
 Val Asp Gln Pro Pro Thr Leu Pro Ser Gln Gly Ser Gly Trp Pro Cys
 130 135 140
 Ser His Ser Leu Ser Gly Cys His Leu Met Ala Asp Ile Ala Lys Ala
 145 150 155 160
 Leu Gly Lys Ala Asp Gly Pro Trp Pro Tyr Leu Phe Val Arg Arg Thr
 165 170 175
 Asp Val Pro Cys Pro Ala Ala Ser Glu Val Gly Gly Cys Ala Pro Ser
 180 185 190
 Ser Trp His Thr Leu Ala Glu Val Thr Gly Cys Ser Leu Ser Pro Leu
 195 200 205
 Ser Leu Ala Gln His Ala Gln Ala Ser Val Leu Leu Leu Cys Tyr Lys
 210 215 220
 Trp Ser His Ile Gly Glu Thr Ser Ser His Leu Arg Ser Lys Val Tyr
 225 230 235 240
 Ala Ala Phe Gly Gly Ser Ser Pro Cys Leu Lys Gly Leu Met Ser Leu
 245 250 255
 Trp Ala Ser Trp Leu Pro Arg Gly Arg Pro
 260 265

<210> 535

<211> 6082

<212> DNA

<213> Homo sapiens

<400> 535

cctccactat tacagcttat aggaattac aatccacttt acaggcctca aaggttcatt 60
 ctggccgagc ggcagggcgt ggcggccggg gccccagcat ccttgettga ggtccaggag 120
 cggagcccg cgcactgcc gctgatcag cgcgaccccg gcccgcgcc gcccgcccg 180
 gcaagatgct gccgtgtac caggaggtga agcccaacc gctgcaggac gcgaacctct 240
 gctcacgctt gttcttctgg tggctcaatc ccttgtttta aattggccat aaacggagat 300

tagaggaaga	tgatatgtat	tcagtgtctgc	cagaagaacg	ctcacagcac	cttggagagg	360
agttgcaagg	gttctgggat	aaagaagttt	taagagctga	gaatgacgca	cagaagcctt	420
ctttaacaag	agcaatcato	aegtgttact	ggaaatctta	tttagttttg	ggaattttta	480
cgttaattga	ggaaagtgc	aaagtaakcc	agcccatatt	tttgggaaaa	attatttaatt	540
attttgaaaa	ttatgatccc	atggattctg	tggctttgaa	cacagcgta	gcctatgcc	600
cgggtgctgac	tttttgcacg	ctcatttttg	ctatctgca	tcacttatat	ttttatcaog	660
ttcagtgtgc	tgggatgag	ttacgagtag	ccatgtgcca	tatgatttat	oggaaggcac	720
ttcgtcttag	taacatggcc	atggggaaag	caaccacagg	ccagatagtc	aatctgctgt	780
ccatgatgt	gaacaagttt	gatcaggtga	cagtyttctt	acacttctct	tgggcaggac	840
cactgcaggc	gatcgagtg	actgccctac	tctggatgga	gataggaaata	togtgccttg	900
ctgggatggc	agttctaata	attctcctgc	ccttgcaaa	ctgtttctgg	aagtgtctct	960
catcactgag	gagtaaaact	gcaactttca	oggatgccag	gatcaggacc	atgaatgaag	1020
ttataactgg	tataaggata	ataaaaatgt	acgcttgsga	aaagtcattt	tcaaatctta	1080
ttacccattt	gagaaagaag	gagatttcca	agattctgag	aagttcctgc	ctcaggggga	1140
tgaattctgg	ttcgtttttc	agtgcaggca	aaatcatcgt	gtttgtgacc	ttcaccacct	1200
acgtgctcct	cggcagtggt	atcacagcca	gcgcgtgtt	cgtggcagtg	acgcgtatg	1260
gggtctgtcg	gctgacgggt	acccctctct	tccctcagc	cattgagagg	gtgtcagagg	1320
caatcgtcag	catcgaaga	atccagacct	ttttgctact	tgatgagata	tcacagcgca	1380
accgtcagct	gcggtcagat	ggtaaaaaga	tgggtgcatgt	gcaggatttt	actgcttttt	1440
gggataaggc	atcagagacc	ccaaactctac	aaggccttct	ctttactgtc	agacctggcg	1500
aattgtttag	tgtggtcggc	cccgtyggag	cagggaagtc	atcactgtta	agtgcctgtc	1560
tcgggggaatt	ggccccaagt	cacgggctgg	tcagcgtgca	tsgaagaatt	gcctatgtgt	1620
ctcagcagcc	ctgggtgttc	togggaactc	tgaggagtaa	tattttattt	gggaagaaat	1680
acgaaaagga	acgatatgaa	aaagtcatat	aggtctgtgc	cttgaaaaag	gatttaccgc	1740
tgttggaggga	tgggtgatctg	actgtgatag	gagatcgggg	aaccacgctg	agtggaggggc	1800
agaaagcagc	ggtaaacctt	gcaagagcag	tgtatcaaga	tgtctacatc	tatctcctgg	1860
acgatcctct	cagtgcagta	gatgcgggaag	ttagcagaca	cttgttcgaa	ctgtgtattt	1920
gtcaaatctt	gcattgagaag	atcacaattt	tagtgactca	tcagttgcag	tacctcaaag	1980
ctgcaagtra	gattctgata	ttgaaagatg	gtaaaatggt	gcagaagggg	acttacactg	2040
agttcctaaa	atctgggtata	gattttgggt	cccttttaaa	gaaggataat	gaggaaagtg	2100
aacaaacctcc	agttccagga	actccacac	taaggaaatc	taccttctca	gagttctcgg	2160
tttggctctca	acaaactctt	agaccctcct	tgaagatgg	tgctctggag	agccaagata	2220
cagagaatgt	ccagttaca	ctatcagagg	agaacggttc	tgaaggaaaa	gttgggtttt	2280
aggcctataa	gaattacttc	agagctgggt	ctcactggat	tgtcttcatt	ttccttatte	2340
tuctaaacac	tgcagctcag	gttgccctatg	tgtttcaaga	ttgggtggctt	tcaactcggg	2400
caaacaaaaa	aagtatgcta	aatgtcactg	taaatggagg	aggaaatgta	accgagaagc	2460
tagatcttaa	ctggtactta	ggaatttatt	caggtttaac	tgtagctacc	gttctttttt	2520
gcatagcaag	atctctattg	gtattctacg	tccttgttta	ctcttcacaa	actttgcaca	2580
acaaatgtt	tgaagcaatt	ctgaagcttc	cgttatatt	ctttgataga	aatccacaga	2640
gaagaatttt	aaatcgtttc	tccaasgaca	ttggacactt	ggatgatttg	ctgcacgtga	2700
cgttttttaga	tttcatccag	acattgctac	aagtggttgg	tgtggtctct	gtgggtgttg	2760
cogtgattcc	ttggatcgca	atacccttgg	ttcccttgg	aatcattttc	atttttcttc	2820
ggcgatattt	tttggaaacg	tcaagagatg	tgaagcgct	ggaatctaca	actcggagtc	2880
cagtgttttc	ccarttgtca	tcttctctcc	aggggtctct	gaccatccgg	gcatacaaa	2940
cagaagagag	gtgtcaggaa	ctgttttgatg	cacacagga	tttacattca	gaggcttgg	3000
tcttgttttt	gacaacgtcc	ogctgggttc	cogtccgtct	ggaatgcac	tgtgccatgt	3060
ttgtcatcat	ogttgccttt	gggtccctga	ttctggcaaa	aactctggat	gcogggcagg	3120
ttggtttggc	actgtcttat	gcccacagc	tcatggggat	gtttcagtg	tgtgttcgac	3180
aaagtgtgga	agttgagaat	atgatgatct	cagtagaaag	ggtcattgaa	tacacagacc	3240
ttgaaaaaga	agcacccttg	gaatatcaga	aaogccacc	accagcctgg	ccccatgaag	3300
gagtataat	ctttgacaat	gtgaacttca	tgtacagtc	aggtgggctt	ctggtactga	3360
agpatctgac	agcaactcatt	aaatcacaag	aaaaggttgg	cattgtggga	agaacoggag	3420
ctggaaaaag	ttccctcact	tacgcccctt	ttagattgtc	agaaacggaa	ggtaaaaatt	3480
ggactgataa	gatctctgaca	actgaatttg	gaacttcag	tttaaggga	aaaatgtcaa	3540
tcatcactca	ggaactgtgt	ttgttcaatg	gaacaatgag	gaaaaacctg	gatcccttta	3600
atgagcacac	ctgtgaggaa	ctgtggaatg	ccttacaaga	ggtacaactt	aaagaaacca	3660
ttgaagatct	tcctggtaaa	atggataactg	aattagcaga	atcaggatcc	aatttttagt	3720
ttggacaaag	acaactgggt	tgccttgcca	gggcaattct	caggaaaaat	cagatattga	3780

ttattgatga	agogacggca	aatgtggatc	caagaactga	tgagttaata	caaaaaaat	3840
ccggggagaa	tttgccact	gcaccgtgct	accatttga	cacagattga	acaccattat	3900
tgacagcgac	aagataatgg	ttttagattc	aggaagactg	aaagaatatg	atgagccgtg	3960
tgttttgctg	caaaataaag	agagccattt	ttacaagatg	gtgnaacaa	tgggcaagge	4020
agaagccgct	gcccctcactg	aaacagcaaa	acagggtatac	ttcaaaagaa	attatccaca	4080
tatttggtaac	actgaccaca	tgggttacaaa	cacttccaat	ggacagccct	cgaccctaac	4140
tattttcgag	acagcactgt	gaatccaaac	aaaatgtcaa	gtccgttccg	aaggcattctg	4200
ccactagtgtt	ttggactatg	taaaacacat	tgtacttttt	tttactttgg	caacaaatct	4260
ttatacatac	aagatgctag	ttcatttgaa	tattttctcc	aaacttatcc	aggatctcca	4320
gctctaacaa	aatgggttat	ttttatttaa	atgtcaatag	ttgtttttta	aaatccaaat	4380
cagaggtgca	ggccaccagt	taaaatgccgt	ctatcagggtt	ttgtgccctta	agagactaca	4440
gagtcaaaag	tcatltttta	aggagttagga	cagagtgtgc	acagggtttt	gttgttctgt	4500
ttattgcccc	caaaattaca	tgttaatttc	catttatata	agggatttct	tttacttgaa	4560
gactgtgaag	ttgccatttt	gtctcattgt	tttctttgac	ataactagga	tccatttat	4620
ccccctgaag	ctctctgtta	gaaaatagta	cagttacaac	caatagggaac	aaacaaaaga	4680
aaaagtttgt	gacatttgtag	tagggagtgt	gtacccctta	ctcccccata	aaaaaaaata	4740
tggatcacatg	gttaaaggat	agaagggcaa	tattttatca	tatgttctaa	aagagaagga	4800
agagaaaaata	ctactttctc	aaaatggag	cccttaaagg	tgttttgata	ctgaaggaca	4860
caaatgtgac	cgcccatcct	cccttagagt	tgcattgactt	ggacaoggta	actgttgacg	4920
tttttagactc	agcatttgtga	cacttcccaa	gaaggcccaa	cccttaacog	acattctctga	4980
aataogtggc	attattcttt	tttggatttc	tcatttatgg	aaggctaac	ctctgttgac	5040
tgttaagccct	ttggtttggg	ctgtattgaa	atcctttcta	aattgcatga	ataggctctg	5100
ctaactgtgat	gagacaaaac	gaaaattcatt	gcaggcattg	actataatta	tgcagtaagt	5160
tctcaggatg	cattccagggg	ttcattttca	tgagcctgtc	caggttagtt	tactcctgac	5220
cactaatagc	attgtcattt	gggctttctg	ttgaatgaat	caacaaacca	caatacttcc	5280
tgggaccttt	tgtactttat	tgaactatg	agctttta	tttctctgat	gatgggtggct	5340
gtaataatgtt	gagttcagtt	tactaaaggt	tttactatta	tgggttgaag	tggagtctca	5400
tgaactctca	gaataagggtg	tcacctccct	gaatttgrat	atatgtatat	agacatggac	5460
aogtgtgcac	ttgtttgtat	acatatattt	gtccttcgtg	tagcaagttt	tttgcctcat	5520
agcagagagc	aacagatgtt	ttatttgagt	aagccttaaa	aagcacacac	cacacacagc	5580
taactgcca	aatacattga	ccgtagtagc	tgttcaactc	ctagtactta	gaataacacg	5640
tatggttaat	gttcagtcra	acaaaccaca	cacagtaaat	gtttattaat	agtrattgggt	5700
cgtattttctg	gtgactgaaa	ttgcaacagt	gatcataatg	aggtttgtta	aaatgatagc	5760
tataattcaaa	atgtctatat	gtttatttgg	acttttgagg	ttaaagacag	tcatataaac	5820
gtcctgtttc	tgttttaatg	ttatcataga	attttttaat	gaactcaaat	tcaatttgaa	5880
taaatgatag	ttttcatctc	caaaaaaaa	aaaaaaaagg	goggcogctc	gagtcagag	5940
ggcccggttta	aaccogctga	tcagcctoga	ctgtgccttc	tagttgccag	ccatctgttg	6000
tttgccctc	cccgctgact	tecttgaccc	tgggaagggtg	cactcccaac	gtcccttctc	6060
antaaaatga	ggaaattgca	tc				6082

<210> 536

<211> 6140

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (4535)

<223> n=A,T,C or G

<400> 536

cagtggcgca	gtctcagctc	actgcagcct	ccacctcctg	tgttcaagca	gtccctcctgc	60
ctcagccacc	agactagcag	gtctcccccg	cctctttctt	ggaaggacac	ttgccattgg	120
atttaggacc	cacttgata	atccaggatg	atgtcttcac	tccaacatcc	tcagtttaat	180
tccatgtgca	aatacccttt	tcccaataaa	cattcaattc	tttaccagga	aagggtggctc	240
aatccctctgt	ttaaaattgg	ccataaacgg	agatttagag	aagatgatat	gtattcagtg	300
ctgccagaag	accgctcaca	gcaccttgga	gaggagtgtg	aagggttctg	ggataaagaa	360
gttttaagag	ctgagaatga	cgcacagaag	ccttctctaa	caagagcaat	cataaagtgt	420

tactggaaat	cttattttagt	tttgggaatt	tttaogttaa	ttgaggaaag	tgccaaagta	480
atccagccca	tattttttggg	aaaaatttatt	aattatttttg	aaaattatga	tcccatggat	540
tctgtgggtt	tgaaacacagc	gtacgcctat	gccacgggtgc	tgaactttttg	cacgctcatt	600
tgggtatatac	tgcatacactt	atattttttat	cacgtttcagt	gtgctgggat	gagggttaaga	660
gtagccatgt	gccatatgat	ttatoggaag	gcacttcgtc	ttagtaacat	ggccatgggg	720
aagacaacca	caggccagat	agtcactctg	ctgtccaatg	atgtgaacaa	gtttgatcag	780
gtgacagtgt	tcttacactt	cctgtgggca	ggaccactgc	aggcgatcgc	agtgaactgcc	840
ctactctgga	tggagatagg	aatatcgtgc	cttgcctggga	tggcagttct	aatcattctc	900
ctgccccttgc	aaagctgtttt	tgggaagtgt	ttctcatcac	tgaggagtaa	aactgcaact	960
ttcaoggatg	ccaggatcag	gaccatgaat	gaagttataa	ctgggtataag	gataataaaa	1020
atgtacgcct	gggaaaagtc	attttcaaat	cttattacca	atttgagaaa	gaaggagatt	1080
tccaagattc	tgagaagtct	ctgcctcagg	gggatgaaat	tgggttcgtt	tttcagtcca	1140
agcaaatca	tcgtgtttgt	gaccttcacc	acctacgtgc	tcctcggcag	ctgtatcaca	1200
gccagccgcg	tgttcgtggc	agtgaagctg	tatggggctg	tgcggctgac	ggttaccctc	1260
ttcttccct	cagccattga	gagggtgtca	gaggcaatcg	tcagcatccg	aagaatccag	1320
acetttttgc	tacttgatga	gactatcacg	cgcacccgtc	agctgcctgc	agatggtaaa	1380
aagatgggtc	atgtgcagga	ttttactgct	ttttgggata	aggcatcaga	gaccccaact	1440
ctacaaggcc	tttccctttac	tgtcagacct	ggcgaattgt	tagctgtggt	cggccccgtg	1500
ggagcagggg	agtcatacct	gttaagtgcg	gtgctcgggg	aattggcccc	aagtccaggg	1560
ctgggtcagcg	tgcattggaag	aattgcctat	gtgtctcagc	agccctgggt	gttctcggga	1620
actctgagga	gtaatatttt	atltgggaag	aaatacgaaa	aggaacgata	tgaaaaagtc	1680
ataaaggctt	gtgctctgaa	aaaggabtta	cagctgttgg	aggatgggtg	tctgactgtg	1740
ataggagatc	ggggaaccac	gctgagtggg	gggcagaaag	cacgggtaaa	ccttgcaaga	1800
gcagtgtatc	aagatgttga	cactctatct	ctggacgata	ctctcagtg	agtagatgag	1860
gaagttagca	gacacttggt	cgaactgtgt	atttgtcaaa	ttttgcatga	gaagatcaca	1920
atctttagtga	ctcatcagtt	gcagtacctc	aaagctgcaa	gtcagattct	gatattgaaa	1980
gatggtaaaa	tgggtcagaa	ggggacttac	actgagttcc	taaaatctgg	tatagatttt	2040
ggctcccttt	taaaagaagg	taattgaggaa	agtgaacaa	ctccagttcc	aggaactccc	2100
acactaagga	atogtatcct	ctcagagctc	tgggtttggg	ctcaacaate	ttctagaccc	2160
tccttgaaaag	atggtgctct	ggagagccaa	gatacagaga	atgtcccagt	tacactatca	2220
gaggagaacc	gttctgaaag	aaaagtgtgt	cttcaggcct	ataagaatta	cttcagagct	2280
gggtgctcact	ggattgtctt	cattttcctt	attctcctaa	acactgcagc	tcagggttgc	2340
tatgtgcttc	aagattgggtg	gctttcatac	tgggcaaaaa	aaacaaagat	gctaaatgtc	2400
actgtaaaatg	gaggagggaaa	tgtaacccag	aagctagatc	ttaaactggta	cttaggaatt	2460
tattcaggtt	caactgtagc	taccgttctt	tttggcatag	caagatctct	attgggtattc	2520
tacgtccttg	ttaaotcttc	acaaaactttg	cacaacaaaa	tgttttagtc	aattctgaaa	2580
gctcoggat	tattcttttga	tagaaatcca	ataggaagaa	ttttaaatcg	ttctccaaaa	2640
gacattggag	acttggatga	tttgcctgag	ctgacttttt	tatgtttcat	ccagacattg	2700
ctacaagttg	ctgtgtgggt	ctctgtggct	gtggcggtga	ttccttggat	cgcacatccc	2760
ttggttcccc	ttggaatcat	tttcattttt	cttcggcgat	atttttttga	aacgtcaaga	2820
gatgtgaagc	gcoctggaa	tacaaactgg	agtcaggtgt	tttcccactt	gtcatcttct	2880
ctccaggggc	cttggaccat	cggggcatac	aaagcagaag	agagggtgtca	gggaactgtt	2940
gatgcacacc	aggatttaca	ttcagaggct	tgtttcttgt	ttttgacaa	gtcccgtctg	3000
ttogccgtcc	gtctggatgc	catctgtgoc	atgtttgtca	tcactcgttg	ctttgggtcc	3060
ctgattctgg	caaaaaactct	ggatgcgggg	caggttggtt	tggcactgto	ctatgccttc	3120
acgtctcatg	ggatgttttc	gtggtgtgtt	cgcacaaagt	ctgaagttga	gaatatgatg	3180
atctcagtag	aaagggtcat	tgaatacaca	gaccttgaaa	aagaagcacc	ttgggaatat	3240
cagaaacgoc	caccacacagc	ctggccccat	gaaggagtga	taatctttga	caatgtgaac	3300
ttcatgtaca	gtccagggtgg	gcoctgtggt	ctgaagratc	tgcacgact	cattaaatca	3360
caagaaaagg	ttggcattgt	gggaagaaac	ggagctggaa	aaagttccct	catctcagcc	3420
cttctttagat	tgtcagaacc	cgaaggtaaa	atltggattg	ataagatctt	gacaaactga	3480
attggaette	acgatttaag	gaagaaaaatg	tcaatcatat	ctcagggaac	tgttttgttc	3540
actggaacaa	tgaggaaaaa	cctggatccc	tttaattgagc	acacggatga	ggaaactgtg	3600
aatgccttac	aagaggtaca	acttaaaaga	acctttgaag	atcttccctg	taaaatggat	3660
actgaattag	cagaatcagg	atocaaattt	agtgcttgac	aaagacaact	ggtgtgcctt	3720
gccagggcaa	ttctcaggaa	aaatcagata	ttgactattg	atgaagcgac	ggcaatgtgt	3780
gatocaaaga	ctgatgagtt	aatacaaaaa	aaaatccggg	agaaatttgc	ccactgcacc	3840
gtgctaacca	ctgcacacag	attgaacacc	attattgaca	gggacaagat	aatgggttta	3900

```

gattcaggaa gactgaaaga atatgatgag ccgtatggtt tgcctgcaaaa taaagagago 3960
ctattttaca agatgggtgca acaactgggc aaggcagaag ccgctgcect cactgaaaca 4020
gcaaaacaga gatgggggtt caccatggtg gccaggtggt tctcaaaactc ctgacctcaa 4080
gtgatccacc tgccttggtc tcccaaaactg ctgagattac aggtgtgagc caccacgccc 4140
agcctgagta tacttcaaaa gaaattatcc acataattgt cacactgacc acatggttac 4200
aaacacttcc aatggacagc cctcgaacct aactatttcc gagacagcac tgtgaatcca 4260
acaaaaatgt caagtccgtt ccgaaggcat ttgccactag tttttggact atgtaaacca 4320
cattgtactt ttttttactt tggcaacaaa tatttataca tacaagatgc tagttcattt 4380
gaatatttct cccaaactat ccagggatct ccagctctaa caaatgggtt tatttttatt 4440
taaatgtcaa tagtkgkttt ttaaaatcca aatcagaggc gcaggccacc agttaaatgc 4500
cgtctatcag gtlttggtgc ttaaggagct acagagtgca gaagctcatt tttaaaggag 4560
taggacagag ttgtcacagg tttttgttgg tgtttktatt gcccccacaaa ttacatgtta 4620
atctccattt atatcagggg attctattta ctgaaagact gtgaagtgc cattttgtct 4680
cattgttttc ttgacatam ctaggatcca ttatttcccc tgaaggcttc ttgkagaaaa 4740
tagtccagtt acaaccaata ggaactamca aaaaagaaaa gtgtgtgaca ttgtagtagg 4800
gagtgtgtac ccttactccc ccatcaaaaa aaaaaatgga tacatggtta aaggatagaa 4860
gggcaatatt ttatcatatg ttctaaaaga gaaggaaag aaaatactac ttctcaaaa 4920
tgaagccctc ttaaggtgct ttgatactga aggcacacaa tgtgacogtc catcctcctt 4980
tagagtgcga tgaactggac acggttaact ttgcagtttt agactcagca ttgtgacct 5040
tcccaagaag gccaaacctc taaccgacat tctgaaata cgtggcatta ttcttttttg 5100
gatttctcat ttagggaagg taacctctg ttgamtgtam kctttttggt ttgggctgta 5160
ttgaaatcct ttctaaattg catgaatagg ctctgctaac cgtgatgaga caaacgaaa 5220
attattgcaa gcattgacta taattatgca gtacgttctc aggatgcacc cagggttcca 5280
ttttcatgag cctgtccagg ttagtttact cctgaccaat aatagcattg tcatttgggc 5340
ttctgttga abgaatcaac aaaccacaat acttccctgg accctttgta ctttatttga 5400
actatgagtc tttaatttt cctgatgatg gtggctgtaa tatgttgagt tawgtttacc 5460
aaaggtttta ctattatggt ttgaaggag tctcatgacc tctcagaaaa ggtgcacctc 5520
cctgaaattg catatatgta tatagacatg cacacgtgtg catttgtttg tatacatata 5580
tttgtccttc gtatagcaag ttttttgctc atcagcagag agcaacagat gttttattga 5640
gtgaagcctt aaaaagrcac caccacacac agctaactgc caaaatacat tgacgtagt 5700
agctgttcaa ctctagtac ttagaataac acgtatggtt aatgttcagt ccaacaabcc 5760
acacacagta aatgtttatt aatagtcagt gttogtattt taggtgactg aaattgcaac 5820
agtatcata atgaggtttg ttaaatgat agctatcttc aaaaatgcta tatgtttatt 5880
tggacttttg aggttaaaaga cagtcataata aacgtcctgt ttctgtttta atgttatcat 5940
agaatttttt aatgaaacta aattcaattg aaataaatga tagttttcat ccccaaaaaa 6000
aaaaaaaag ggcggccgcg togagtctag agggcccggt ttaaacccgc tgatcagcct 6060
cgactgtgce ttctagttgc cggccatctg ttgtttggcc ctcctccgtg ccttccttga 6120
ccctggaagg ggcactccc 6140

```

<210> 537

<211> 1228

<212> PRT

<213> Homo sapiens

<400> 537

```

Met Leu Pro Val Tyr Gln Glu Val Lys Pro Asn Pro Leu Gln Asp Ala
          5              10              15

```

```

Asn Leu Cys Ser Arg Val Phe Phe Trp Trp Leu Asn Pro Leu Phe Lys
          20              25              30

```

```

Ile Gly His Lys Arg Arg Leu Glu Glu Asp Asp Met Tyr Ser Val Leu
          35              40              45

```

```

Pro Glu Asp Arg Ser Gln His Leu Gly Glu Glu Leu Gln Gly Phe Trp
          50              55              60

```

```

Asp Lys Glu Val Leu Arg Ala Glu Asn Asp Ala Gln Lys Pro Ser Leu

```

65	70	75	80
Thr Arg Ala Ile Ile Lys Cys Tyr Trp Lys Ser Tyr Leu Val Leu Gly	85	90	95
Ile Phe Thr Leu Ile Glu Glu Ser Ala Lys Val Ile Gln Pro Ile Phe	100	105	110
Leu Gly Lys Ile Ile Asn Tyr Phe Glu Asn Tyr Asp Pro Met Asp Ser	115	120	125
Val Ala Leu Asn Thr Ala Tyr Ala Tyr Ala Thr Val Leu Thr Phe Cys	130	135	140
Thr Leu Ile Leu Ala Ile Leu His His Leu Tyr Phe Tyr His Val Gln	145	150	155
Cys Ala Gly Met Arg Leu Arg Val Ala Met Cys His Met Ile Tyr Arg	165	170	175
Lys Ala Leu Arg Leu Ser Asn Met Ala Met Gly Lys Thr Thr Thr Gly	180	185	190
Gln Ile Val Asn Leu Leu Ser Asn Asp Val Asn Lys Phe Asp Gln Val	195	200	205
Thr Val Phe Leu His Phe Leu Trp Ala Gly Pro Leu Gln Ala Ile Ala	210	215	220
Val Thr Ala Leu Leu Trp Met Glu Ile Gly Ile Ser Cys Leu Ala Gly	225	230	235
Met Ala Val Leu Ile Ile Leu Leu Pro Leu Gln Ser Cys Phe Gly Lys	245	250	255
Leu Phe Ser Ser Leu Arg Ser Lys Thr Ala Thr Phe Thr Asp Ala Arg	260	265	270
Ile Arg Thr Met Asn Glu Val Ile Thr Gly Ile Arg Ile Ile Lys Met	275	280	285
Tyr Ala Trp Glu Lys Ser Phe Ser Asn Leu Ile Thr Asn Leu Arg Lys	290	295	300
Lys Glu Ile Ser Lys Ile Leu Arg Ser Ser Cys Leu Arg Gly Met Asn	305	310	315
Leu Ala Ser Phe Phe Ser Ala Ser Lys Ile Ile Val Phe Val Thr Phe	325	330	335
Thr Thr Tyr Val Leu Leu Gly Ser Val Ile Thr Ala Ser Arg Val Phe	340	345	350
Val Ala Val Thr Leu Tyr Gly Ala Val Arg Leu Thr Val Thr Leu Phe	355	360	365
Phe Pro Ser Ala Ile Glu Arg Val Ser Glu Ala Ile Val Ser Ile Arg	370	375	380

Arg Ile Gln Thr Phe Leu Leu Leu Asp Glu Ile Ser Gln Arg Asn Arg
 385 390 395 400
 Gln Leu Pro Ser Asp Gly Lys Lys Met Val His Val Gln Asp Phe Thr
 405 410 415
 Ala Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr Leu Gln Gly Leu Ser
 420 425 430
 Phe Thr Val Arg Pro Gly Glu Leu Leu Ala Val Val Gly Pro Val Gly
 435 440 445
 Ala Gly Lys Ser Ser Leu Leu Ser Ala Val Leu Gly Glu Leu Ala Pro
 450 455 460
 Ser His Gly Leu Val Ser Val His Gly Arg Ile Ala Tyr Val Ser Gln
 465 470 475 480
 Gln Pro Trp Val Phe Ser Gly Thr Leu Arg Ser Asn Ile Leu Phe Gly
 485 490 495
 Lys Lys Tyr Glu Lys Glu Arg Tyr Glu Lys Val Ile Lys Ala Cys Ala
 500 505 510
 Leu Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly Asp Leu Thr Val Ile
 515 520 525
 Gly Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln Lys Ala Arg Val Asn
 530 535 540
 Leu Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile Tyr Leu Leu Asp Asp
 545 550 555 560
 Pro Leu Ser Ala Val Asp Ala Glu Val Ser Arg His Leu Phe Glu Leu
 565 570 575
 Cys Ile Cys Gln Ile Leu His Glu Lys Ile Thr Ile Leu Val Thr His
 580 585 590
 Gln Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile Leu Ile Leu Lys Asp
 595 600 605
 Gly Lys Met Val Gln Lys Gly Thr Tyr Thr Glu Phe Leu Lys Ser Gly
 610 615 620
 Ile Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn Glu Glu Ser Glu Gln
 625 630 635 640
 Pro Pro Val Pro Gly Thr Pro Thr Leu Arg Asn Arg Thr Phe Ser Glu
 645 650 655
 Ser Ser Val Trp Ser Gln Gln Ser Ser Arg Pro Ser Leu Lys Asp Gly
 660 665 670
 Ala Leu Glu Ser Gln Asp Thr Glu Asn Val Pro Val Thr Leu Ser Glu
 675 680 685

Glu Asn Arg Ser Glu Gly Lys Val Gly Phe Gln Ala Tyr Lys Asn Tyr
 690 695 700
 Phe Arg Ala Gly Ala His Trp Ile Val Phe Ile Phe Leu Ile Leu Leu
 705 710 715 720
 Asn Thr Ala Ala Gln Val Ala Tyr Val Leu Gln Asp Trp Trp Leu Ser
 725 730 735
 Tyr Trp Ala Asn Lys Gln Ser Met Leu Asn Val Thr Val Asn Gly Gly
 740 745 750
 Gly Asn Val Thr Glu Lys Leu Asp Leu Asn Trp Tyr Leu Gly Ile Tyr
 755 760 765
 Ser Gly Leu Thr Val Ala Thr Val Leu Phe Gly Ile Ala Arg Ser Leu
 770 775 780
 Leu Val Phe Tyr Val Leu Val Asn Ser Ser Gln Thr Leu His Asn Lys
 785 790 795 800
 Met Phe Glu Ser Ile Leu Lys Ala Pro Val Leu Phe Phe Asp Arg Asn
 805 810 815
 Pro Ile Gly Arg Ile Leu Asn Arg Phe Ser Lys Asp Ile Gly His Leu
 820 825 830
 Asp Asp Leu Leu Pro Leu Thr Phe Leu Asp Phe Ile Gln Thr Leu Leu
 835 840 845
 Gln Val Val Gly Val Val Ser Val Ala Val Ala Val Ile Pro Trp Ile
 850 855 860
 Ala Ile Pro Leu Val Pro Leu Gly Ile Ile Phe Ile Phe Leu Arg Arg
 865 870 875 880
 Tyr Phe Leu Glu Thr Ser Arg Asp Val Lys Arg Leu Glu Ser Thr Thr
 885 890 895
 Arg Ser Pro Val Phe Ser His Leu Ser Ser Ser Leu Gln Gly Leu Trp
 900 905 910
 Thr Ile Arg Ala Tyr Lys Ala Glu Glu Arg Cys Gln Glu Leu Phe Asp
 915 920 925
 Ala His Gln Asp Leu His Ser Glu Ala Trp Phe Leu Phe Leu Thr Thr
 930 935 940
 Ser Arg Trp Phe Ala Val Arg Leu Asp Ala Ile Cys Ala Met Phe Val
 945 950 955 960
 Ile Ile Val Ala Phe Gly Ser Leu Ile Leu Ala Lys Thr Leu Asp Ala
 965 970 975
 Gly Gln Val Gly Leu Ala Leu Ser Tyr Ala Leu Thr Leu Met Gly Met
 980 985 990
 Phe Gln Trp Cys Val Arg Gln Ser Ala Glu Val Glu Asn Met Met Ile

995 1000 1005

Ser Val Glu Arg Val Ile Glu Tyr Thr Asp Leu Glu Lys Glu Ala Pro
1010 1015 1020

Trp Glu Tyr Gln Lys Arg Pro Pro Pro Ala Trp Pro His Glu Gly Val
1025 1030 1035 1040

Ile Ile Phe Asp Asn Val Asn Phe Met Tyr Ser Pro Gly Gly Pro Leu
1045 1050 1055

Val Leu Lys His Leu Thr Ala Leu Ile Lys Ser Gln Glu Lys Val Gly
1060 1065 1070

Ile Val Gly Arg Thr Gly Ala Gly Lys Ser Ser Leu Ile Ser Ala Leu
1075 1080 1085

Phe Arg Leu Ser Glu Pro Glu Gly Lys Ile Trp Ile Asp Lys Ile Leu
1090 1095 1100

Thr Thr Glu Ile Gly Leu His Asp Leu Arg Lys Lys Met Ser Ile Ile
1105 1110 1115 1120

Pro Gln Glu Pro Val Leu Phe Thr Gly Thr Met Arg Lys Asn Leu Asp
1125 1130 1135

Pro Phe Asn Glu His Thr Asp Glu Glu Leu Trp Asn Ala Leu Gln Glu
1140 1145 1150

Val Gln Leu Lys Glu Thr Ile Glu Asp Leu Pro Gly Lys Met Asp Thr
1155 1160 1165

Glu Leu Ala Glu Ser Gly Ser Asn Phe Ser Val Gly Gln Arg Gln Leu
1170 1175 1180

Val Cys Leu Ala Arg Ala Ile Leu Arg Lys Asn Gln Ile Leu Ile Ile
1185 1190 1195 1200

Asp Glu Ala Thr Ala Asn Val Asp Pro Arg Thr Asp Glu Leu Ile Gln
1205 1210 1215

Lys Lys Ser Gly Arg Asn Leu Pro Thr Ala Pro Cys
1220 1225

<210> 538
<211> 1261
<212> PRT
<213> Homo sapiens

<400> 538

Met Tyr Ser Val Leu Pro Glu Asp Arg Ser Gln His Leu Gly Glu Glu
5 10 15

Leu Gln Gly Phe Trp Asp Lys Glu Val Leu Arg Ala Glu Asn Asp Ala
20 25 30

Gln Lys Pro Ser Leu Thr Arg Ala Ile Ile Lys Cys Tyr Trp Lys Ser
35 40 45

Tyr Leu Val Leu Gly Ile Phe Thr Leu Ile Glu Glu Ser Ala Lys Val
 50 55 60
 Ile Gln Pro Ile Phe Leu Gly Lys Ile Ile Asn Tyr Phe Glu Asn Tyr
 65 70 75 80
 Asp Pro Met Asp Ser Val Ala Leu Asn Thr Ala Tyr Ala Tyr Ala Thr
 85 90 95
 Val Leu Thr Phe Cys Thr Leu Ile Leu Ala Ile Leu His His Leu Tyr
 100 105 110
 Phe Tyr His Val Gln Cys Ala Gly Met Arg Leu Arg Val Ala Met Cys
 115 120 125
 His Met Ile Tyr Arg Lys Ala Leu Arg Leu Ser Asn Met Ala Met Gly
 130 135 140
 Lys Thr Thr Thr Gly Gln Ile Val Asn Leu Leu Ser Asn Asp Val Asn
 145 150 155 160
 Lys Phe Asp Gln Val Thr Val Phe Leu His Phe Leu Trp Ala Gly Pro
 165 170 175
 Leu Gln Ala Ile Ala Val Thr Ala Leu Leu Trp Met Glu Ile Gly Ile
 180 185 190
 Ser Cys Leu Ala Gly Met Ala Val Leu Ile Ile Leu Leu Pro Leu Gln
 195 200 205
 Ser Cys Phe Gly Lys Leu Phe Ser Ser Leu Arg Ser Lys Thr Ala Thr
 210 215 220
 Phe Thr Asp Ala Arg Ile Arg Thr Met Asn Glu Val Ile Thr Gly Ile
 225 230 235 240
 Arg Ile Ile Lys Met Tyr Ala Trp Glu Lys Ser Phe Ser Asn Leu Ile
 245 250 255
 Thr Asn Leu Arg Lys Lys Glu Ile Ser Lys Ile Leu Arg Ser Ser Cys
 260 265 270
 Leu Arg Gly Met Asn Leu Ala Ser Phe Phe Ser Ala Ser Lys Ile Ile
 275 280 285
 Val Phe Val Thr Phe Thr Thr Tyr Val Leu Leu Gly Ser Val Ile Thr
 290 295 300
 Ala Ser Arg Val Phe Val Ala Val Thr Leu Tyr Gly Ala Val Arg Leu
 305 310 315 320
 Thr Val Thr Leu Phe Phe Pro Ser Ala Ile Glu Arg Val Ser Glu Ala
 325 330 335
 Ile Val Ser Ile Arg Arg Ile Gln Thr Phe Leu Leu Leu Asp Glu Ile
 340 345 350

Ser Gln Arg Asn Arg Gln Leu Pro Ser Asp Gly Lys Lys Met Val His
 355 360 365
 Val Gln Asp Phe Thr Ala Phe Trp Asp Lys Ala Ser Glu Thr Pro Thr
 370 375 380
 Leu Gln Gly Leu Ser Phe Thr Val Arg Pro Gly Glu Leu Leu Ala Val
 385 390 395 400
 Val Gly Pro Val Gly Ala Gly Lys Ser Ser Leu Leu Ser Ala Val Leu
 405 410 415
 Gly Glu Leu Ala Pro Ser His Gly Leu Val Ser Val His Gly Arg Ile
 420 425 430
 Ala Tyr Val Ser Gln Gln Pro Trp Val Phe Ser Gly Thr Leu Arg Ser
 435 440 445
 Asn Ile Leu Phe Gly Lys Lys Tyr Glu Lys Glu Arg Tyr Glu Lys Val
 450 455 460
 Ile Lys Ala Cys Ala Leu Lys Lys Asp Leu Gln Leu Leu Glu Asp Gly
 465 470 475 480
 Asp Leu Thr Val Ile Gly Asp Arg Gly Thr Thr Leu Ser Gly Gly Gln
 485 490 495
 Lys Ala Arg Val Asn Leu Ala Arg Ala Val Tyr Gln Asp Ala Asp Ile
 500 505 510
 Tyr Leu Leu Asp Asp Pro Leu Ser Ala Val Asp Ala Glu Val Ser Arg
 515 520 525
 His Leu Phe Glu Leu Cys Ile Cys Gln Ile Leu His Glu Lys Ile Thr
 530 535 540
 Ile Leu Val Thr His Gln Leu Gln Tyr Leu Lys Ala Ala Ser Gln Ile
 545 550 555 560
 Leu Ile Leu Lys Asp Gly Lys Met Val Gln Lys Gly Thr Tyr Thr Glu
 565 570 575
 Phe Leu Lys Ser Gly Ile Asp Phe Gly Ser Leu Leu Lys Lys Asp Asn
 580 585 590
 Glu Glu Ser Glu Gln Pro Pro Val Pro Gly Thr Pro Thr Leu Arg Asn
 595 600 605
 Arg Thr Phe Ser Glu Ser Ser Val Trp Ser Gln Gln Ser Ser Arg Pro
 610 615 620
 Ser Leu Lys Asp Gly Ala Leu Glu Ser Gln Asp Thr Glu Asn Val Pro
 625 630 635 640
 Val Thr Leu Ser Glu Glu Asn Arg Ser Glu Gly Lys Val Gly Phe Gln
 645 650 655
 Ala Tyr Lys Asn Tyr Phe Arg Ala Gly Ala His Trp Ile Val Phe Ile

660					665					670						
Phe	Leu	Ile	Leu	Leu	Asn	Thr	Ala	Ala	Gln	Val	Ala	Tyr	Val	Leu	Gln	
675					680					685						
Asp	Trp	Trp	Leu	Ser	Tyr	Trp	Ala	Asn	Lys	Gln	Ser	Met	Leu	Asn	Val	
690					695					700						
Thr	Val	Asn	Gly	Gly	Gly	Asn	Val	Thr	Glu	Lys	Leu	Asp	Leu	Asn	Trp	
705					710					715					720	
Tyr	Leu	Gly	Ile	Tyr	Ser	Gly	Leu	Thr	Val	Ala	Thr	Val	Leu	Phe	Gly	
725					730					735						
Ile	Ala	Arg	Ser	Leu	Leu	Val	Phe	Tyr	Val	Leu	Val	Asn	Ser	Ser	Gln	
740					745					750						
Thr	Leu	His	Asn	Lys	Met	Phe	Glu	Ser	Ile	Leu	Lys	Ala	Pro	Val	Leu	
755					760					765						
Phe	Phe	Asp	Arg	Asn	Pro	Ile	Gly	Arg	Ile	Leu	Asn	Arg	Phe	Ser	Lys	
770					775					780						
Asp	Ile	Gly	His	Leu	Asp	Asp	Leu	Leu	Pro	Leu	Thr	Phe	Leu	Asp	Phe	
785					790					795					800	
Ile	Gln	Thr	Leu	Leu	Gln	Val	Val	Gly	Val	Val	Ser	Val	Ala	Val	Ala	
805					810					815						
Val	Ile	Pro	Trp	Ile	Ala	Ile	Pro	Leu	Val	Pro	Leu	Gly	Ile	Ile	Phe	
820					825					830						
Ile	Phe	Leu	Arg	Arg	Tyr	Phe	Leu	Glu	Thr	Ser	Arg	Asp	Val	Lys	Arg	
835					840					845						
Leu	Glu	Ser	Thr	Thr	Arg	Ser	Pro	Val	Phe	Ser	His	Leu	Ser	Ser	Ser	
850					855					860						
Leu	Gln	Gly	Leu	Trp	Thr	Ile	Arg	Ala	Tyr	Lys	Ala	Glu	Glu	Arg	Cys	
865					870					875					880	
Gln	Glu	Leu	Phe	Asp	Ala	His	Gln	Asp	Leu	His	Ser	Glu	Ala	Trp	Phe	
885					890					895						
Leu	Phe	Leu	Thr	Thr	Ser	Arg	Trp	Phe	Ala	Val	Arg	Leu	Asp	Ala	Ile	
900					905					910						
Cys	Ala	Met	Phe	Val	Ile	Ile	Val	Ala	Phe	Gly	Ser	Leu	Ile	Leu	Ala	
915					920					925						
Lys	Thr	Leu	Asp	Ala	Gly	Gln	Val	Gly	Leu	Ala	Leu	Ser	Tyr	Ala	Leu	
930					935					940						
Thr	Leu	Met	Gly	Met	Phe	Gln	Trp	Cys	Val	Arg	Gln	Ser	Ala	Glu	Val	
945					950					955					960	
Glu	Asn	Met	Met	Ile	Ser	Val	Glu	Arg	Val	Ile	Glu	Tyr	Thr	Asp	Leu	
965					970					975						

Glu Lys Glu Ala Pro Trp Glu Tyr Gln Lys Arg Pro Pro Pro Ala Trp
 980 985 990
 Pro His Glu Gly Val Ile Ile Phe Asp Asn Val Asn Phe Met Tyr Ser
 995 1000 1005
 Pro Gly Gly Pro Leu Val Leu Lys His Leu Thr Ala Leu Ile Lys Ser
 1010 1015 1020
 Gln Glu Lys Val Gly Ile Val Gly Arg Thr Gly Ala Gly Lys Ser Ser
 1025 1030 1035 1040
 Leu Ile Ser Ala Leu Phe Arg Leu Ser Glu Pro Glu Gly Lys Ile Trp
 1045 1050 1055
 Ile Asp Lys Ile Leu Thr Thr Glu Ile Gly Leu His Asp Leu Arg Lys
 1060 1065 1070
 Lys Met Ser Ile Ile Pro Gln Glu Pro Val Leu Phe Thr Gly Thr Met
 1075 1080 1085
 Arg Lys Asn Leu Asp Pro Phe Asn Glu His Thr Asp Glu Glu Leu Trp
 1090 1095 1100
 Asn Ala Leu Gln Glu Val Gln Leu Lys Glu Thr Ile Glu Asp Leu Pro
 1105 1110 1115 1120
 Gly Lys Met Asp Thr Glu Leu Ala Glu Ser Gly Ser Asn Phe Ser Val
 1125 1130 1135
 Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala Ile Leu Arg Lys Asn
 1140 1145 1150
 Gln Ile Leu Ile Ile Asp Glu Ala Thr Ala Asn Val Asp Pro Arg Thr
 1155 1160 1165
 Asp Glu Leu Ile Gln Lys Lys Ile Arg Glu Lys Phe Ala His Cys Thr
 1170 1175 1180
 Val Leu Thr Ile Ala His Arg Leu Asn Thr Ile Ile Asp Ser Asp Lys
 1185 1190 1195 1200
 Ile Met Val Leu Asp Ser Gly Arg Leu Lys Glu Tyr Asp Glu Pro Tyr
 1205 1210 1215
 Val Leu Leu Gln Asn Lys Glu Ser Leu Phe Tyr Lys Met Val Gln Gln
 1220 1225 1230
 Leu Gly Lys Ala Glu Ala Ala Ala Leu Thr Glu Thr Ala Lys Gln Arg
 1235 1240 1245
 Trp Gly Phe Thr Met Leu Ala Arg Leu Val Ser Asn Ser
 1250 1255 1260

<210> 539

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 539

Cys Leu Ser His Ser Val Ala Val Val Thr
1 5 10

<210> 540

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 540

Ala Val Val Thr Ala Ser Ala Ala Leu
1 5

<210> 541

<211> 14

<212> PRT

<213> Homo sapiens

<400> 541

Leu Ala Gly Leu Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu
5 10

<210> 542

<211> 15

<212> PRT

<213> Homo sapiens

<400> 542

Thr Gln Val Val Phe Asp Lys Ser Asp Leu Ala Lys Tyr Ser Ala
5 10 15

<210> 543

<211> 12

<212> PRT

<213> Homo sapiens

<400> 543

Phe Met Gly Ser Ile Val Gln Leu Ser Gln Ser Val
5 10

<210> 544

<211> 18

<212> PRT

<213> Homo sapiens

<400> 544

Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu Lys Phe

200

5

10

Glu Cys

<210> 549

<311> 18

<213> PRT

<213> Homo sapiens

<400> 549

Leu Glu Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp
5 10

Gln Ala

<210> 550

<311> 14

<213> PRT

<213> Homo sapiens

<400> 550

Ser Asp His Trp Arg Gly Arg Tyr Gly Arg Arg Arg Pro Phe
5 10

<210> 551

<311> 11

<213> PRT

<213> Artificial Sequence

<220>

<223> Made in a lab

<400> 551

Phe Asp Lys Ser Asp Leu Ala Lys Tyr Ser Ala
1 5 10

the asp t p asp the ser ala leu ala pro tyr leu gly thr cin glu

<400> 548

<213> homo sapiens

<213> prt

<213> 18

<210> 548

50

cys arg met pro arg thr leu arg arg leu

55

35

ala phe arg ala leu gly ala leu pro arg leu his cin leu cys

40

45

30

ser ala pro ser le ser pro his cys pro cys arg ala arg leu

25

30

10

val ala cin glu, la ala leu gly pro thr glu pro ala cin gly leu

15

<400> 547

<213> homo sapiens

<213> prt

<213> 58

<210> 547

20

thr cin ala arg arg his tyr asp cin gly val arg met

25

5

phe val gly cin gly leu tyr cin gly val pro arg ala cin pro gly

10

15

<400> 546

HO sapiens

10

an arg phe gly thr arg ala val tyr leu ala

15

10

199

15